

EDUCATING FOR DEMOCRACY

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PLANNED AND EDITED BY

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PREFACE

IN a previous work, entitled *Human Affairs*, an attempt was made to demonstrate in a general way how the methods of science could be used to solve many urgent social problems. This work treats the specific field of education in a concrete fashion.

It was realized at an early stage in the planning of the work that close co-ordination of the various chapters was essential. A meeting of the co-authors was called and Dr. Miller kindly lent his house for the occasion. At this meeting various fundamental questions of policy were discussed and the authors arranged to keep in touch with each other to deal with matters of detail.

We are indebted particularly to Professor C. Burt who showed his keen interest in this work from the outset and gave us much useful advice, and to Sir Philip Hartog for his very active participation. We owe very special thanks to Mr. Denis Clarke Hall, A.R.I.B.A., for designing the jacket and to Mr. Paul Lafitte, B.Sc., for undertaking, amidst the pressure of mental testing, the thankless but useful task of compiling the index.

We regret that it was only through illness, from which he has happily recovered, that Dr. Havelock Ellis was prevented from collaboration in this work.

Our colleague Professor R. B. Cattell, who

accepted a Chair in Psychology at Clark University, Mass., soon after the publication of *Human Affairs*, was unable to join in the editorship of this work, but has fortunately contributed a section, "The School Psychological Clinic".

Unfortunately Dr. J. J. Mallon was unable to contribute owing to his work on the Civil Service Arbitration Tribunal. Professor Hamley was kind enough to co-operate in this work, although under exceptional stress of duties at the Institute of Education.

We owe much to some enlightening manuscripts which Professor John Macmurray was kind enough to lend us and for some thought-provoking discussion.

In addition, we record our thanks to the publishers, Messrs. Macmillan, for their painstaking co-operation, and, in particular, to Mr. Harold Macmillan, M.P., for helpful advice and suggestions.

Although there is an essential unity and broad agreement among the authors of this work, nevertheless each collaborator can ultimately be responsible for only his own section. Thus we ourselves cannot be certain that the editorial commands the full assent of all our co-authors. Moreover, although a copy of Sir Percy Nunn's chapter was sent to every co-author, they were not thereby bound by the formulations laid down by him.

UNIVERSITY COLLEGE
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CONTENTS

	PAGE
THE GROUP	v
PREFACE	vii
LIST OF ILLUSTRATIONS	xiii
EDITORIAL. J. I. Cohen and R. M. W. Travers	xv

CHAPTER I

EDUCATION AS A BIOLOGICAL EXPERIMENT. Sir Percy Nunn	i
--	---

CHAPTER II

THE NURSERY FOUNDATION OF CIVILIZATION. Miss de Lissa	23
---	----

CHAPTER III

FREEDOM AND CONTROL. Lord Raglan	40
--	----

CHAPTER IV

FROM SCHOOL TO WORK. Mr. E. Farmer	55
--	----

CHAPTER V

THE ROAD THROUGH ADOLESCENCE. Professor Olive Wheeler	63
---	----

CHAPTER VI

THE IMPORTANCE OF THE NON-UNIVERSITY COLLEGE. Dr. Helen M. Wodehouse	82
--	----

EDUCATING FOR DEMOCRACY

CHAPTER VII

	PAGE
EDUCATING MEN AND WOMEN. Mr. Ernest Green .	93

CHAPTER VIII

THE SCHOOL AND THE FOUNDATIONS OF HEALTH. Dr. R. Crowley	108
---	-----

CHAPTER IX

ORGANIZING EDUCATION IN A MODERN CITY. Mr. Lester Smith	145
--	-----

CHAPTER X

THE SCHOOL AND THE CHILD GUIDANCE CLINIC. Professor R. B. Cattell	169
--	-----

CHAPTER XI

ARCHITECTURE IN SCHOOL BUILDINGS. Mr. Denis Clarke Hall	183
--	-----

CHAPTER XII

THE TEACHING OF THE MOTHER TONGUE AND THE FORMATION OF THE CITIZEN. Sir Philip Hartog .	201
--	-----

CHAPTER XIII

AESTHETICS AND MODERN EDUCATION. Dr. P. B. Ballard	212
---	-----

CHAPTER XIV

SCIENCE AND MODERN EDUCATION. Mr. Richard Palmer	236
--	-----

CHAPTER XV

ECONOMICS AND MODERN EDUCATION. Mr. H. Gaitskell	257
--	-----

CONTENTS

CHAPTER XVI

	PAGE
PSYCHOLOGY AND MODERN EDUCATION. J. I. Cohen and R. M. W. Travers	269

CHAPTER XVII

THE PLACE OF EXAMINATIONS IN THE SOCIAL SYSTEM. Sir Philip Hartog	277
--	-----

CHAPTER XVIII

EDUCATION FOR PARENTHOOD. Dr. Emanuel Miller	305
--	-----

CHAPTER XIX

MASS EDUCATION AND GROUP ANALYSIS. Professor K. Mannheim	329
---	-----

CHAPTER XX

EDUCATION AND RESEARCH. Professor H. R. Hamley	365
--	-----

CHAPTER XXI

INVESTMENT IN EDUCATION. Mr. H. L. Beales	378
---	-----

CHAPTER XXII

EDUCATION AND POPULATION CHANGES. Dr. E. C. Rhodes	399
---	-----

CHAPTER XXIII

COMPARATIVE EDUCATION. Professor I. L. Kandel	422
---	-----

WHO'S WHO	443
---------------------	-----

INDEX	455
-----------------	-----

LIST OF ILLUSTRATIONS

	<i>Facing page</i>
FOOTBRIDGE AT TÖSSTEG, NEAR WINTERTHUR, 1933	188
<i>Architect: R. Maillart</i>	
SCHOOL IN CALIFORNIA	192
<i>Architect: S. Neutra</i>	
CONCRETE GLOBE AT SURESNES, FRANCE	196
<i>Architects: Beaucloin and Lods</i>	
VILLE JUIF, FRANCE	200
<i>Architect: André Lurçat</i>	

EDITORIAL

THE SOCIAL CONTEXT

-We are not educated in a social vacuum. The amount of education we receive is determined largely by our incomes, our social class, and to a certain extent by our abilities. The type of education we receive is to a great extent determined by the inertia of tradition. That is to say, the present system is not flexible enough to respond to the changing demands made upon it by the changing social order itself.

We recognize that our educational system is fashioned by the economic and cultural habits of our particular society. In this work we are concerned only with Education in England to-day and to-morrow. It must be borne in mind, however, that the form of education in this country is not independent of events and movements elsewhere.

The social setting in England is more or less democratic. Some people may believe that our democracy is in a somewhat enervated condition and that gradual but unmistakable concessions are being made to other forms of government less in accordance with the pattern of enlightened English tradition. Others maintain that there is no place for a liberal democracy in the modern world and that

any present form of government must develop into either Communism or Fascism.

It is the belief of the writers of this book that democracy is the most desirable form of government for this country at the present time, that active steps must be taken to develop our democracy ; and that this is the best means of removing present-day economic and social evils.

This book represents a co-operative effort to state the function of education in English democracy.

What is democracy ? *It demands simple, fundamental justice.* It demands a form of society based on justice, not on privilege, in which responsibilities and freedom must be shared by all. It demands freedom: freedom for the fulfilment of the biological, psychological, and cultural needs of every individual.

We have, of late, become conscious of democracy as a positive thing ; the rise of authoritative powers has shown up our own freedom in a clearer light. But it has to be realized that a democratic form of society cannot survive simply by *laissez-faire*.

We may be condemned for not having prepared a book on Socialism and Fascism. But innumerable problems of education remain, whatever political system is adopted. People who suffer from present-day evils are not prepared to wait till a classless society and a World State come into being, however fundamental and desirable these ends might be. Scientists with eyes for practical problems, in whatever field they have to work, have to be concerned with the immediate needs that confront them as well as with the potentialities of science in a more developed society.

EDITORIAL

Indictments of present-day society and its evils need not always be couched in crude political terms. Indeed, they may be much more effective, at least in England, if they are framed in terms of specific disorders. Moreover, there is much to be said for the argument that scientific research, as a social effort, is radical by its very nature and will do as much as anything else to bring about transformations in society, without alienating people by the use of political notions.

EDUCATION A POSITIVE CONCEPT

The pre-fascist notion of education is one which is rapidly disappearing in modern civilization. There is a grave tendency to-day for education to become little more than a means of adjusting the individual to certain restraints on his or her liberty, and this distorted view of education reaches its most grotesque form in fascist countries. So long as the individual is treated as a means rather than as an end, education can only be a process for developing inhibitions and restraints, but when every child is considered as an end in itself then education becomes distinctly positive. The development of this aspect, though much retarded in recent years by reactionary movements, has been considerably developed by scientists in varied fields. There is real effort in the endeavours of the leaders of the nursery school movement to see that children are given a chance to grow freely in body and mind, and the problem of "keeping the child from being naughty" has passed into the background. This same tendency can be seen

EDUCATING FOR DEMOCRACY

in other fields too. It is true, of course, that any civilized community demands that certain restraints shall be imposed upon its immature members, but to conceive of an educational system in terms of such restraints is disastrously primitive.

Education for democracy is quite different from education for Fascism, a fact, which one regrets, is better recognized by fascists than by democrats. A great deal is known about the organization and the rules for forming a fascist group, whereas the psychological conditions underlying a stable democratic community remain relatively obscure.

The time has come for a great step forward in the building of a consciously planned educational system where the basis of policy is factual rather than political; a system planned through the mutual co-operation of scientists and teachers and the public itself, who would have at their disposal large and active research bodies for experiment and observation.

It seems a curious paradox that the last few years of man's life, whether in hospital or workhouse, or perhaps on the battlefield, are on the whole more scientifically planned than the first few years. Scientific planning is most highly developed where it is least wanted. As Professor Mannheim has clearly shown, Fascism is far superior to democracy in the techniques of organization it has developed to preserve itself. It may possibly be that, in terms of productive capacity, a dictatorship is a more efficient system than a democracy, but the success of a system cannot be measured in terms of productive capacity alone. The future will judge

EDITORIAL

our system not only by the amount of bread consumed but also by the amount of freedom it gave its members. People seem to think that democracy just means not interfering with other people. There is little to be hoped for if the conception stops there. We have to become fully conscious of our democratic objectives and pursue them accordingly. Recognizing the reality and rapidity of social change in a society moulded by science and industry, we seek to make education the means to the attainment of democratic ends. For a system of education is a means to an end, and the end is finer and fuller living.

One should always bear in mind, as Dr. Crowley pointed out at a meeting of the co-authors, that in a democracy the bottom 70 per cent of the community matter as much as the top 20 or 30 per cent of intellectuals. A democratic society must provide for the needs of all its mediocre and backward members, for they constitute the bulk of society.

EDUCATION AND COMPETITION

Our education maintains an industrialized society. The social evils we suffer from are not the inevitable results of the industrial system as such, but only from its non-essential concomitants.

It is fundamental to realize that the competitive system is not a necessary part of industry. Men co-operate in the production of plenty. They have to compete for a share of the fruits of their labours because distribution is faulty. Competition produces unemployment, and, as Professor Macmurray

EDUCATING FOR DEMOCRACY

teaching of religion is futile. In France it was recognized that any systematic teaching of morality was hopeless.

THE VALUE OF CLASS EDUCATION

We have been unable to find any redeeming feature in class education. It represents a permanent obstacle to the development of democracy.

"Our schools", says the president of the National Union of Teachers, "continue to mirror the old class distinctions which create within our nation the forces not of unification and strength but of social disintegration."¹

Public schools exist for the purpose of imbuing the progeny of certain classes with an illusion of superiority. They preserve and cultivate a tradition that they constitute a natural class of leaders, people whose function is to exert power over others. The public schools are a real danger to democracy, for, as Mrs. Naomi Mitchison² has recently pointed out, "all the moral training which they try to give their boys is contradicted by the training for power which is given them at the same time, and which is much the stronger, because they see its results in action during the whole of their school life".

The problem of a declining birth-rate in all classes of society is gaining more and more attention. Professor Haldane has pointed out that the low fertility of the more prosperous classes may be due largely to the expensive education which such people

¹ Presidential Address (1938).

² Naomi Mitchison, *The Moral Basis of Politics*.

feel they must give their children, for most of the best posts in Government Departments in industry and in commerce go to men with a public-school training, or to women with the equivalent. Consequently, "it would be a eugenic measure to have one and only one school system for the whole population".

The existing organization and disbursal of educational privileges also has definite evil effects in the economic field. "We know that a maximum standard of educational equipment is an indispensable condition of entry into a large number of occupations. Lack of opportunity for higher education, imposed by the inadequacy of existing educational facilities upon the majority of children whose parents are manual workers, therefore constitutes a serious impediment to free movement in the labour market, and thus an important source of class stratification."¹

THE CONTENT OF EDUCATION

It is not sufficiently realized that *what* is learnt at school and college is no less important than *how* things are taught. Interest in the latter has probably increased at the cost of the former.

The present attitude towards the content of the curriculum is bound up with class distinctions. As Professor John Dewey has made it clear, the background of the traditional educational system is a class society in which a false opposition has been set up between so-called "cultural" subjects

¹ *Political Arithmetic*, ed. by Prof. L. Hogben.

and practical, useful ones. Literary and classical scholarship was always reserved for the well-to-do and it marked them off from the vulgar herd who had to earn a living by a useful task like plumbing or carpentry; a tendency developed amongst the upper classes to attach a stigma to knowing things that were useful, and cultural superiority implied familiarity with knowledge that was useless save for personal culture. At the same time, but on the other side of the class barrier, there appeared contempt for what is called "book learning", which deepened the rift between the classes.

Professor Haldane has shown in a recent work¹ how several present-day political issues can only be properly dealt with in the light of biological knowledge. Yet no organized attempt has been made to introduce biological science in schools and colleges as part of the essential equipment of all.

As far back as 1916, a committee under the chairmanship of Professor Sir J. J. Thomson, inquiring into the position of Natural Science in our educational system, reached this conclusion: "*That no pupil should be allowed to complete his school education, whatever the main subject of his study, without acquiring an appreciative knowledge of the principles of Natural Science and of their application to industry and civilization*".²

Little has been done to incorporate this recommendation in present-day education.

The time has happily passed when a member of

¹ *Heredity and Politics* (Allen & Unwin, 1938).

² Reconstruction Problems 26. Ministry of Reconstruction, 1919. H.M.S.O.

parliament would begin quoting from the classics and all the House would rise as one man and finish the sentence. Our administrators would hardly be less efficient if they knew no Latin and less Greek. But how can they grasp social problems and all their implications if they have no background of contemporary scientific culture, especially of biology? Much of the blame lies at the doors of public schools and colleges still exulting in Greek hexameters and Latin orations. There is no dearth, for instance, in the University of Oxford, of the "type of scholar whose clarity of vision comes under some irresistible spell when it turns from a frock-coat to a toga, from a British football ground to a Byzantine circus, from a transcontinental railway to a Roman road to the Alps, from a thirty-knot destroyer to a turbine, from Prussian bayonets to Roman spears—nowadays even, from a modern engineer's Suez Canal to that of a Pharaoh."

Science is not a mere by-product of history. It is the great force in the continuous transformation of society both in material production and in culture. Science liberates us from economic serfdom and creates leisure, making culture possible.

The existence of poverty and disease are no longer to be considered as part of a divine entelechy instituted for the benign contemplation of idle theologians. With a planned ecology of living there is no excuse for it.

"Our present educational practice", writes Dr. Enid Charles, "consists almost exclusively of forcing mathematics on children who have nothing to measure, foreign languages on children who have

EDUCATING FOR DEMOCRACY

no opportunities to use them for social intercourse, literary composition on children who have nothing to write about, history on children who know next to nothing about the social institutions into which they have blundered, geography on children who have never travelled beyond the confines of one country and in many cases never travel beyond the confines of a single parish."

The teaching of science in schools is limited by the amount of equipment available,¹ and this in turn is restricted by inadequate finance. On the other hand, there seems to be some quite irrational prejudices against the teaching of science in general, and of biology in particular, but such prejudices as do exist are directed against financial support of this aspect of education. We may mention as well the need, as suggested by the Consultative Committee, for courses in "General Hygiene"—which would include a brief account of the public health service, and the measures taken by public authorities to safeguard the health of the community.

EDUCATION AND THE PUBLIC

The English public is not, as a rule, particularly interested in knowing how its social institutions work. It is no less backward in endeavouring to reshape these social institutions.

No doubt it is a great thing to have a democratic tradition, but there is nothing particularly remark-

¹ "The special equipment required for the teaching of science hardly exists in many schools at the present time" (Hadow Report, rept. 1936, p. 220. H.M.S.O.).

EDITORIAL

able in allowing this tradition to wind its way undisturbed by the powerful social changes constantly taking place.

Only one organized attempt has been made to awaken public interest in schools. For this the credit is due to the *News Chronicle* for its admirable pioneer effort, "The Schools Exhibition", held in Dorland Hall in December 1937.¹

Actually, what is needed is an annual exhibition of this kind, but much more comprehensive, including in its scope post-primary education in all its varying forms—technical, industrial, artistic, crafts, etc., the links between education, industry, and commerce. An annual Educational Exhibition is of no less importance than an Ideal Home Exhibition and it is the task of the Board of Education to see that it takes place.

FUTILITIES AND INEQUALITIES

Modern educationists agree that, in order to achieve good results, classes in schools must be relatively small. Not only is this important for the conveying of facts. It is essential if the individual nature of each child is to be adequately understood and provided for.

It is perhaps not generally known that 2·3 per cent of all classes in schools in England and Wales, that is 3404 classes, have over fifty pupils. No less than 31 per cent of all classes have more than forty children but less than fifty. Such conditions

¹ And subsequently at Olympia (1938-39).

may be admirably suited for the training of hordes but they are hardly conducive to the production of free, well-informed individual citizens. At the same time the quota fixed on the number of teachers trained is not high enough to enable any drastic reduction in the size of classes during the next few years.

Training by horde methods may work excellently in fascist countries, but democracy demands that every child should be given the most favourable conditions possible for full development.

Although it is generally recognized that the early years are the most important in the training of the child, yet there is accommodation in the nursery schools for only 7000 of the total pre-school population of 1,670,000.

The reader may be interested in the following problems raised in *Political Arithmetic*, edited by Professor Lancelot Hogben.

The question has been asked as to the rate at which the older universities are opening their doors to students of the poorer classes. It is essential that the facts of the matter be brought to light.

There is no doubt that the opportunities of proceeding to a university enjoyed by fee-paying pupils are far greater than ex-elementary school pupils. Likewise, it is certain that there is a very considerable number of able pupils without the opportunity of any higher education at all.

It seems that the majority of college entrance scholarships as distinct from State scholarships go, for one reason or another, to public and private schools.

EDITORIAL

“About thirty-two per cent of entrance scholarships at the older universities are awarded in the subject of classics. (Of these ninety-two per cent go to pupils of Public Schools.) Under thirty per cent of scholarships are awarded in modern subjects and under twenty per cent in natural science.”

Of particular interest is the fact that “public (boarding) schools” have one full-time teacher to every fourteen boys, and County Secondary Schools one to every twenty-three, as ascertained by a sample investigation.

In 1926 the Hadow Report recommended that “legislation should be passed fixing the age of 15 years as that to which attendance at school will become obligatory after the lapse of five years from the date of this Report, that is to say, at the beginning of the school year 1932”. With the admirable speed of our present organization to put necessary reforms into practice, the Education Act 1936 raising the school-leaving age from 14 to 15 years comes into operation in September 1939.

It is relevant to mention here the plea that Professor Tawney and many others have made with regard to this act. Competent judges maintain that it lies entirely with local education authorities “whether from four-fifths to nine-tenths of the children will leave school at much the same age as to-day, or as more optimistic prophets have suggested, the figure will be in the region of one-third to one-half”.

Some of our national futilities are carried out on a large and systematic scale. We cannot enumerate them all here. But we quote almost at random, in

one connection, Sir Farquhar Buzzard, Regius Professor of Medicine in the University of Oxford. "If the Government had spent on genetic research half the sum it proposed to spend on physical fitness, it would be making a really profitable investment"; and again, "Large sums of public money should be provided to equip the universities more efficiently for work in both pure and applied science, and to enable them to reduce their fees. Scholarships should be of nominal value in the first instance, but should be increased to suit the needs of the scholar, and, where necessary, should cover the whole cost of education and maintenance on a liberal scale."

To conclude this editorial, we may cite the famous words of Frederick Burk: "There are misfit schools, misfit texts and studies, misfit dogmas and traditions, of pedants and pedantry. There are misfit homes, misfit occupations and diversions. In fact, there are all kinds and conditions of misfit clothing for children, but *in the nature of things there can be no misfit children.*"

CHAPTER I

EDUCATION AS A BIOLOGICAL EXPERIMENT

To speak of education as a biological experiment is to use familiar terms in rather unusual senses. In the strict meaning of the word, to make an experiment is to manipulate some kind of material in a prearranged way for the purpose of seeing what result will follow. The experimenter may start with no notions about this result, and may merely "ask for information"; or (more often) he may have a theory as to what will happen, which the experiment is to confirm or negate; but in either case the essence of the experimental attitude is that he does nothing to deflect the course of the experiment so as to make it end in one way rather than in another, and that he accepts the result with the same loyalty, whatever it may be. In education such disinterestedness is not permissible. A teacher may quite properly make experiments in the minor technicalities of his trade; he may try a particular method of teaching spelling or quadratic equations, and, having assessed its value, may drop it and try another. But the education of children, taken as a whole, is not to be conducted with this detachment; unless we are

EDUCATING FOR DEMOCRACY

grossly mistaken, its bearing upon the general tenor of their lives is too close to make the true experimental attitude tolerable. The education we give must express a faith, which experience may correct or even destroy, but which is meanwhile accepted as true and applied with conviction. In short, a type or mode of education can be an experiment only in the sense in which Mr. H. A. L. Fisher speaks of the development of political democracy as "the liberal experiment". It is an adventure in life believed to be well inspired.

The term "biological" also is to be used here in a sense which follows, but does not cling too closely to, its technical significance. Biology is the science which claims all forms of life as its province, and one of its chief aims is to study and to bring out those features which unite all living creatures—whether plants or animals, whether high or low in the scale of organization—in a common kinship. Its fundamental notion is that life is to be regarded as a series of reactions between the living organism and its environment—reactions which, whatever be their origin, actually make for the maintenance of the individual life and the perpetuation of its type. After eighty years of Darwinism the application of these general notions to the life of man is still not everywhere welcome. Enlightened people rarely deny them but are often reluctant to take them seriously, being much more impressed by the uniqueness of man than by this broad solidarity with creatures of lower status. Anyone who thinks of education as a biological process shows that the uniqueness of man—which he may appre-

EDUCATION AS A BIOLOGICAL EXPERIMENT

ciate as truly as others—is not a hindrance to his making full use of the seminal ideas that modern biology offers for the interpretation of individual and social life.

He may, however, himself boggle at one notion which is, perhaps, properly to be included in the technical meaning of the term “biological”. That is the notion that a biological explanation or description is one which confines itself to material factors and assumes that purpose plays no part in natural events. Not all biologists are strong-minded enough to hold rigidly to this point of view, but it must probably be regarded, so to speak, as an article in the Athanasian creed of their science. Living creatures are “physical objects”, and all their behaviour is ultimately to be explained upon physical principles; even the most impressive feats of human reasoning or the most dazzling flights of imagination are but behaviour produced by a long-continued and complicated process of “conditioning”.

Now it is no part of our task either to defend or to refute this bleak and difficult orthodoxy—if it is orthodoxy; but it is important to maintain that one may take a biological view of education without assuming it to be true. In brief, one may accept wholeheartedly the values the humanist tradition puts upon man's moral attributes, upon the life of reason and imagination, upon creative functions, such as art, poetry, and music—may accept them all, and yet hold that these things are best understood and their normal development best furthered if they are studied and dealt with from

the standpoint of biology. For from that standpoint we are led to view the myriad particulars of man's physical and mental life as features of a unitary organism, showing wide differences in nature and character yet related as parts of a single dynamic whole. Again, we learn from it to look upon the life both of the individual and of the social group as consisting in the active relations it has with its world: relations which are the origin both of its needs and of its powers, from the lowest to the highest. And it is not difficult to see that these two connected groups of ideas offer a valuable, if not indeed an indispensable, basis for sound educational practice.

Starting from this position, we observe that in all social groups education has the character of a biological function. Wherever a group has acquired a degree of organization sufficient to make it conscious of itself as a unity, with an awareness of its difference from other groups and some sense of its continuity, there some form of education inevitably arises. The reports of explorers and anthropologists show how elaborate it may be, what importance a primitive community may attach to it, and how zealously it may be controlled by the authorities and safeguarded by religious sanctions. The significance of these facts cannot be missed. If the tribal group is to be held together, the young must, at the proper age, be initiated into the duties and responsibilities of tribal membership; they must be instructed in the arts needed to maintain its "standard of life" and acquire the lore with which its safety and welfare are mysteriously wrapped up. Among civilized peoples

EDUCATION AS A BIOLOGICAL EXPERIMENT

the forms of education differ immensely from the methods of primitive and savage folk, but the function is the same. We educate our young not because we choose to do so, but because we must—because education is a function essential to the life of a nation. And the education we provide is effective only in so far as it retains, in the complicated conditions of our social life, the features which, in the primitive community, are the relatively simple expression of a deeply rooted social instinct. Almost all primitive peoples live dangerously, and for that reason instincts of vital importance tend to be kept at full tension ; moreover the communities are small and their needs are not too varied or vast to be grasped by the individual member. Among modern nations in normal (or what were once normal) times, things are otherwise, and we have tended to lose the vivid sense of the close bearing of education upon the interests of contemporary life. Education has, in short, tended to become a stiff if not a closed tradition, insufficiently responsive to great changes and movements in the society it should serve.

In recent years the life of some of the greatest continental peoples has been profoundly changed by revolutions whose ultimate effects are not yet in sight. These tremendous movements are motivated by political ideas with which the great majority of our own countrymen have little sympathy. It is, however, both interesting and important to observe that, though the revolutions have taken different courses in different countries, the now dominant powers everywhere look to education both to secure what they have achieved and to provide for its future

development. In other words, at a time when these great communities are intensely conscious of themselves and of the character they wish to give to their national life, their recognition of what we have called the biological function of education is greatly sharpened and deepened : they remodel their educational institutions and seek to transform their spirit.

We may earnestly hope that the age-long stability of our own society may not be upset by these political hurricanes, and yet may learn much from observation of their phenomena as we see them elsewhere. A lesson we may well learn—though we must no doubt apply it in our own way—is the extreme importance of bringing our education into close and vital relations with the deeper and more significant movements in our national life. Among these the greatest in scale and possibly the greatest in significance is the modern transformation of industry under the influence of science, particularly of the essentially modern science of electricity. This has already made the older age of steam seem curiously remote—heroic but mediaeval. “ The spark-gap is mightier than the pen ” is the epigram which a brilliant writer¹ has coined to express the change it has silently brought about amongst us ; and the argument the phrase means to enforce is that the education of our “ cultivated classes ”, still dominated by the “ pen ” and almost ignoring the “ spark-gap ”, is seriously out of touch with the realities of the age. The point has often been made before ; but the extraordinary developments in science during recent years and their almost equally remarkable influence

¹ Professor Lancelot Hogben, F.R.S.

upon industry have given it an increased urgency. Even if we ignore the enormously important question of national defence we must recognize that the ordinary activities of the nation flow increasingly along channels prepared by science, are increasingly sensitive to the ever-changing movements of scientific discovery and are producing a world where the prevailing atmosphere is increasingly the atmosphere of science. It would be untrue to say that while these profound changes have been in progress education has stood still ; it would not even be true to say that it has shown no reflection of them in the very considerable developments of the last thirty years. But it must be admitted that in the schools there has been no reorientation at once corresponding in direction and comparable in extent with the reorientation in the general stream of the national life ; and it is difficult to believe that this lack of response does the national life no harm.

We stress here the word orientation. It is not a question merely of seeing that in every school time-table provision is made for teaching science ; it is not a question of the importance, measured quantitatively, which scientific subjects assume in the curriculum. What is in question is the general outlook of the school and the spirit which dominates its intellectual activities. Not so long ago, in the English schools which made the strongest mark upon the young mind of their time, the outlook was broadly aristocratic and the dominant spirit was that of classical studies. At its best it was a noble education, and one may regret that so little room has been left for it in the dusty turmoil of

modern days When secondary education underwent the great expansion which followed the Act of 1902, it was natural that the new schools should form themselves as closely as possible upon the old models—that the new municipal or county school should try to make itself indistinguishable from the ancient grammar school. But, in fixing its eyes upon an educational tradition, however respectable, instead of turning them outwards towards the new world it was created to serve, it failed to initiate the readjustment which the oncoming age was to make essential. The result is that, kept back by a sometimes mistaken loyalty to the past and hampered by examination requirements which still express only too well the older ideas and standards, the schools are playing less than their proper part in relation to the modern movement. The culture they give is not sufficiently affected by it, and in return their teaching does not sufficiently illuminate it.

If these arguments are sound, our chief educational need is that the schools should express a fuller understanding of contemporary life and should bring their cultural activities into consonance with it. This certainly implies some shifting of the centre of gravity of school studies. It must not lie, as of old, in the middle of the literary and linguistic group, though we need not seek to correct an old error by committing a new one and bury it within a group of formal sciences to be given the same sort of dominance as the classical languages once enjoyed. The experience of the Organized Science Schools which flourished forty years ago

showed how that policy might easily result in a tyranny as burdensome as the older one and an equally offensive pedantry. What is needed, we repeat, is not a great extension of formal science-teaching, but a revaluation which will invest scientific studies with a dignity and importance answering to their significance in the activities of the nation. This will certainly result in giving a scientific colouring to the curriculum as a whole; that is needed to bring the tone of the school's intellectual life into harmony with the prevalent tone of modern civilization. But it need not imply that technical scientific studies should swamp the timetable.

A policy of one-sided concentration in education is, in fact, incompatible with the biological view of the community and the relation of education to its general life. Such a view must take due account of the contemporary situation, but, in the first place, must see it as a whole, and, in the second place, must realize it as a phase in a continuous historical evolution. Man has never lived by bread alone, and the standard of a nation's economic activities is a very incomplete measure of its progress in civilization. In a word, in assessing that progress one must treat its achievements in the arts and crafts, in literature, drama and music, in manners and the social arts—such as dancing—and its pursuit of disinterested knowledge, as at least as significant as its success in industry—as significant as indices not merely of its greatness but also of its social health. It is regrettable that so many excellent people have been so little sensitive

to these truths. Herbert Spencer, for instance, in his famous book on Education, demanded for scientific studies a dominant place in the curriculum on the ground that, in the activities of the great world, scientific knowledge was the knowledge of most worth. Since, however, he was aware how a tired savant may be soothed after dinner by listening to Mendelssohn's *Lieder ohne Worte* nicely played, he did not exclude the arts. Their enjoyment occupies the leisure hours of life, and they may therefore, he said, be given a place in the leisure hours of school. Some would call the view typically Victorian; but it is more profitable to see in it an expression of the earlier industrialism and of the neo-Puritanism which attended it like a shadow. We find ourselves now in the midst of a new industrialism with markedly different features, and the repressive grip of Puritanism has greatly loosened its hold upon us. The time presents us, therefore, with both a need and an opportunity—the need of disciplining released impulses and feelings by teaching them to submit themselves to the age-long and well-tried forms of art, and the opportunity increased leisure gives of enriching our national life once more with elements which we have tended to lose.

It is here that the modern school should find a highly important service to render. We have dwelt on the point that its activities should reflect those of contemporary life, and should thus fit boys and girls to maintain the standards of their time, but schools must not confine themselves to this function, important though it is. In short, the men who control the

education of the young, whether as teachers or as administrators, are not to be regarded as merely agents charged to see that they keep step with the march of the age. They have two other duties equally important. One is to see that ancient values are not lost, that activities which have played an essential part in the evolution of man's spirit are kept alive to continue their historic formative and sanative work to-day. The other is to exercise a prophetic role, to read the signs of their time, to be bold to say "thou ailest here and here", and to shape the education of children so that the defects may be corrected or abated. These, it will be said, are functions that few are competent to discharge. That is true, and it means that things cannot go well with a community unless its leaders in educational thought and practice are men of outstanding character, wisdom, and insight.

A word should perhaps be said here in anticipation of a later chapter. According to the views expressed above, the practice of literature, of the arts and crafts, of music, of drama and the like is a highly important social function, and as such should be represented in the school curriculum. But it is obvious that citizens who do not make their living by aesthetic creation or high executive skill can, as a rule, practice such things only in their leisure. In that sense, the relevant instruction in school may be said to prepare them for a good use of leisure. But this fact supplies no reason for regarding the instruction as of inferior importance, it would be as sensible to regard meals as of little importance because they can be eaten only when one is idle. The fault into

which our industrial society has fallen is to think too little of the intrinsic value of man's creative powers, save those which advance the standard of his economic activities. The plea here put forward is that it is highly necessary to the health of the age that the fault should be corrected.

It may be added that much of the weakness and failure of modern civilization is due to the absolute distinction it has brought about between two things—work and leisure—that are, in their proper nature, only relatively distinct. When both of these are present, so to speak, in their highest powers they are indistinguishable, as the mad priest said in Mr. Shaw's drama, "work is play and play is life." In some lives—more than is often supposed—that happy identification actually takes place; the majority of us can only win occasional glimpses of it, and to far too many it is unknown and incredible. But when all discounts have been made there remains the truth that the culture which is a man's "play" has a real though subtle influence upon his "work"—just as it has upon the inclinations of the consumer who holds in his hands the ultimate sanctions the producer has to reckon with. In a word, then, a "cultural" education makes a very important contribution to an effective industrial life.

These considerations lead naturally to others. It is a trite remark that man is a social animal, and that the "herd instinct" which makes him such is the source of all civilization and of all human worth. There is little need to restate the arguments that lead to this far-reaching conclusion, it is sufficiently plain that a man becomes what he becomes mainly

as the result of his reactions to his social environment—the influence upon him of intercourse with parents and brethren, of schoolfellows and schoolmasters, companions and rivals, friends and enemies, employers and employees. It is, moreover, easy to recognize the deep influence which the “social heritage”—the whole body of traditions and institutions of a people—has upon the growth and structure of the individual mind. To deny or to seek to minimize these patent facts would be to exhibit a strange blindness to reality, yet when the inferences which too many thinkers have drawn from them are considered one sees that one’s admissions must be carefully safeguarded. It does *not* follow that a community has a “universal mind”, except in a metaphorical or Pickwickian sense of the term, the only minds that actually exist are the minds of the individual citizens. It does *not* follow that the whole function of the individual is to serve the interests or add to the glory of the great Leviathan, the alleged communal Person. Philosophers or politicians who argue in these senses allow themselves to be misled by a dangerous and pernicious inversion of values. they value the mould above the thing moulded, they speak as if the gold existed for the sake of the guinea stamp and not the stamp for the sake of making the gold a guinea. The instinct behind the democratic idea rejects this attitude. It recognizes (of course) that national traditions and institutions have a permanence which makes the individual life seem a very trivial thing. It recognizes that those are often noble and august, and that this, only too often, is, as the famous phrase runs, poor, nasty, and brutish

as well as short. Yet it feels that national traditions and institutions are important only because they help to fashion desirable patterns of individual life, and refuses to lose its sense of reality in face of their impressive grandeur. The instinct that points this way is, we must believe, a sound one, and if it is sound there is no doubt about the educational canon that follows from it. We must hold that a scheme of education is ultimately to be valued by its success in fostering the highest degrees of individual excellence of which those submitted to it are capable. But there is no prescribing modes of individual excellence, we can only wait upon their emergence and assist them impartially. It is for that reason that the school must be catholic in its curriculum, and, as far as opportunity permits, give its pupils access to all the main roads of culture.

This doctrine is not really anarchical nor does it contradict what has gone before. The great majority of boys and girls are imitative animals, quite content, indeed too content, to follow almost any lead that is offered them. They respond naturally to the demands of the age, and, in their several walks in life, become the great army of those without whom "cannot a city be inhabited." Standing out from these are the precious few who have something to give to their age, and are not to be diverted from the lines of growth which natural endowment urges them to follow. But these, however great their promise may be, do not develop their genius *in vacuo*, their originality is their reaction to the form and pressure of the time, not something that grows out of them as a flower blossoms out of its stem.

Hence the adequate reflection of contemporary life, which we hold to be an essential function of the school, is the best condition for the awakening and early development of the special gifts and talents that should in time enrich the community with their fruits.

What has been set down in the foregoing pages might be regarded as the programme of a biological experiment motivated by certain definite convictions. These may be summarized by saying that though the ancient cultural movements have not lost their social value but need rather to be re-emphasized and revived, yet science, the youngest of them—born in old Greece, but revealed in its overwhelming power only in the modern era—has come to control so much of contemporary life and activity that a general appreciation of its nature and significance has become a prime social need and therefore a prime object for education. What is called for is a well-considered attempt to give effect to these convictions undertaken in the belief that something like it is essential to the continued well-being of our community. In the chapters that follow, consideration is given to the separate aspects of the problem—though the reader must bear in mind the warning, given in the Preface, that the writer's colleagues are not committed to acceptance of the formulation he has here laid down.

Whatever differences between us the reader may discover or suspect to exist, he may be sure that upon one point at least there is no difference at all—namely, that the success of this (or indeed of any) educational programme depends upon whether

teachers can be found who are at once willing and competent to carry it out. Thus the ancient problem arises once more—the problem of the proper education and training of the teacher. With regard to the general education of intending teachers, Sir Robert Morant undoubtedly put this country on the right lines when, near the beginning of the century, he decreed that they should all pass through the secondary schools and take the ordinary courses just as if they were not earmarked for a particular profession. In the striking expansion of subsidized university education for future teachers the same principle is now firmly established. no special curriculum distinguishes the teacher-to-be from any other aspirant to a degree in arts or science. There is only a general understanding that his studies shall be relevant to the duties he proposes to undertake. It is worth while to make the point, because the universities in other countries—including the British Dominions—follow a different principle, and formulate special lines of study for their future teachers. It follows that, in British conditions, it must not be assumed that the teacher's pre-professional education will give him either the outlook or the knowledge needed to play an effective part in our biological experiment, he will gain them only if and when the experiment itself has modified the present attitude and teaching in secondary schools.

From our standpoint, then, the professional education or training of the teacher assumes particular importance. We state the position in that way, believing that the advantage, possibly the necessity, of some form of training is now generally

admitted. It is true that there are still headmasters who believe that a teacher is born, not made, or if made can be made only by his efforts and failures in his class-room, and in any case can only be spoilt if he is sent to a training college. That pessimistic view, if it was ever justified, could hardly be held by one who is conversant with the present situation in a good two-year training college or university department of education. There are, in fact, few points in our educational system at which growth and progress are more plainly visible. There is, moreover, among intelligent parents a growing impatience with the untrained master, based upon their knowledge of the price their sons have to pay before he wins his way to competence (if he ever gets there) by the slow and expensive method of trial and error. On the whole, then, we need not delay to defend the practice of professional training, but may inquire straightway how the training should be influenced by the ideas put forward in this chapter.

The besetting weakness of most systems of teacher-training is to concentrate attention upon the teaching process and the routine duties and general problems of the class-room, and to neglect the social setting of the teachers' work. In a word, the school is considered as if it were a self-contained world and not an organ of the community's life. This truth is, here and there, fully recognized, and the training college or university department makes a definite—in some cases a very interesting and valuable—effort to give a social orientation to the teacher's professional studies, and to help him to a living conception of the community

he is to serve. The tendericy should become universal and should be greatly strengthened. The aim should be to give a sense of the actual character of contemporary society and an awareness of the main forces by which its movements are controlled. This aim necessarily involves some study of the degree to which modern societies have come to depend, in most departments of public administration and of industrial and professional activity, upon science and the scientific habit of mind. It is true that the facts cannot be fully appreciated except by students who have received some previous scientific training, but it is not difficult to make them, in their broad lines, intelligible to the layman. And, as the present movement to give science-teaching in secondary schools a broader and less technical character gains strength, few students should reach the training institution without the modest equipment of knowledge and the preliminary stirring of interest needed to make a fuller illumination of outlook possible.

About other aspects of professional training little need here be said. It is sometimes maintained that education should be regarded as a science, not as an art, and a distinguished professor has declared outright that it is "applied psychology." With a loose use of the term psychology the description might be admitted, but then one could say the same thing about acting, which also involves an understanding of the way a single mind may operate upon the minds of a group of auditors. But if the assertion is to be taken seriously, if psychology means what a professor of the subject

would intend it to mean, then it is certain that the practice of education can never be reduced to a science. It will probably always be true that an intelligent and sufficiently informed man, with a lively mind and the gift of getting on with boys may (as Mr. A. C. Benson once wrote) be a "scandalously effective" teacher. What one can assert with truth is, however, that the art of teaching—and the broader art of education—can attain to really high levels only when they are guided by a scientific (or, if the word be preferred, by a philosophical) understanding of the subject-matter taught, and a scientific appreciation of the nature of children and of the conditions of their healthy growth in body and mind. Hence the importance of enabling teachers to bring adequate biological understanding to bear upon the problems of hygiene and physical education, and to take full advantage of the light thrown by modern psychological research upon the normal working of the mind as well as upon its obscurer vagaries.

The last question to be considered is one to which a brilliant address by Mr. H. G. Wells has recently called widespread attention. It is the question how the teacher is to be helped and encouraged to preserve his intellectual freshness and to keep abreast of the growth of knowledge. By a skilful choice of cases even a weak case may be made plausible, and Mr. Wells's case, unfortunately, cannot be described as weak. There are far too many teachers, in secondary as well as in other schools, who are content to live upon an intellectual capital which was accumulated long ago and has

since suffered serious dilapidations. One has even come across the extreme case of a young man, recently certificated, who maintained that it was professional treachery for a teacher to seek to improve qualifications which had been officially declared to be adequate for everything he was expected to do. Nevertheless one could collect many facts to show that there is in the teaching profession at large a much greater zest for improvement than contemplation of the bad cases would suggest. There is the serious and often arduous work of the numerous "subject associations" whose committees are incessantly seeking and examining improved methods of teaching. There are the impressive annual conferences in London and the north which draw multitudes of teachers into a maelstrom of pedagogical discussion. There are the quieter but more effective vacation schools conducted by the Board of Education and other authorities. In the large cities there are lectures and courses, often given by very distinguished men and women, which draw thousands of teachers. Lastly there are the courses of higher study provided by several of the university departments of education. In one such Department of Higher Degrees and Research the number of students in full-time or part-time attendance—all of them teachers of considerable experience—amounts to a substantial fraction (between one-fourth and one-third) of the young graduates taking the ordinary course of training in the two university institutions with which it is associated. After allowing for the fact that students may attend the higher course for

three years and the ordinary course for only one year, there is here evidence of a movement, scarcely known in the world at large and but little known even among educational authorities, which is gradually spreading through the teaching profession a leaven of advanced and progressive pedagogical knowledge and a well-disciplined habit of research that is already producing far from negligible results, and in time must influence profoundly the general temper and outlook of the profession

What is at present chiefly needed is not to create the idea that teachers in practice should keep up their studies as to make generally available the means of their doing so. England has its system of regional universities and university colleges, and each of these institutions has its department of education whose natural clients should include not only the young people who come to them for a first course of professional training but also the teachers who practice in their region. The problem is to bring the departments and the teachers into contact under conditions which will guarantee a fruitful result. The same may be said of the two-year training colleges which often have more to give to some types of teachers than a university department is likely to supply. In a certain American teachers' college it is the custom to send out far and wide into the schools of the State the teachers who will shortly be concluding their training, and to bring into the college for a "refresher course" those whose places have thus been taken. This particular device may not be transplantable, but the important problem of the

refresher course must be solved by some systematic arrangement of "study leave" which, like the American example just quoted, make it possible for a teacher to give himself wholeheartedly to the refurbishing of his intellectual equipment without being harassed by doubts as to whether the price he is paying for it is too high

CHAPTER II

THE NURSERY FOUNDATION OF CIVILIZATION

THE nursery school is designed to meet the needs of young children during the formative pre-school years in which the foundation for "the complex art of living" is laid. It is not concerned with teaching and training so much as with fostering all-round growth by providing an environment that both stimulates and nurtures.

"Education must be passive and following . . . we must follow the child in order to lead him",¹ said Froebel, who in his choice of the name "kindergarten" tried to give his followers a conception of the school as a place where children grew freely in accordance with natural law. Though Froebel's teaching, which was based on philosophical reasoning and deep religious conviction, has dominated the theory of education of young children for more than half a century, methods have lagged far behind, largely through lack of scientific knowledge of the growth process. In recent years research into physiological and psychological growth in early childhood and the conditions most favourable to it,

¹ Froebel, *Education of Man*

supplemented by experiments in school environment and equipment, have brought the education of young children into the field of biological science. Dr Montessori was among the first to approach the practice of education with scientific knowledge and method. She conducted experiments in search of an educational environment that should correspond so closely to biological needs that the child could grow and learn within it in obedience to nature's laws. Her experiments gave rise to many others of like nature, and education in nursery schools to-day is to a large extent the result of this research.

The impulse towards growth—both physical and psychological—arises spontaneously in the normal healthy child. Tendencies and varied activities appear at different stages as inevitable concomitants of maturation, uninfluenced by environment. Yet they are dependent for their development into power and skill on environmental influence and opportunity. For example, every child at about the same age begins spontaneously to use the muscles of his lips, tongue, and throat in making sounds, such as *la-la*, *mum-mum*, *bub-bub*, which are preliminary to speech. This activity arises from within the child. He is not taught it: his physiological growth necessitates such behaviour. Nevertheless he is dependent on his surroundings for stimulus and nurture, which enables him to convert this spontaneous "pre-speech activity" into language. The deaf baby spontaneously makes the same sounds as the normal child, but, because he receives no help from without ceases to make sounds

and becomes dumb, unless artificially taught to speak. The normal child is stimulated by hearing people talk, as well as by his own chattering. He begins to use words and sentences and eventually learns to speak the language of his country. Whether he acquires a large vocabulary or remains inarticulate depends entirely upon the human environment and the stimulus and nurture it gives. Speech and intelligence develop side by side, acting and reacting on each other, stimulated by the social impulse. Thus the child of 2 to 4 years of age whose social environment is unsatisfactory, who does not hear good speech in regard to vocabulary, pronunciation, etc., and who is not given opportunity for talking freely, is retarded in his general development. In the social life of the nursery school, children learn to speak well and acquire a good vocabulary.

Further evidence of the spontaneity of growth is seen in the impulse to play, which begins very early in life and gives rise to specific and different kinds of play activity at different stages of physiological growth. Children of 12 months of age play with things in a way that though unlike the play of the 20-months-old child, is similar in type to that of every normal year-old child. Though these varied kinds of play, that indicate mental activity, appear spontaneously (and without any outward stimulus) when the child is physically healthy and normal, intelligence is dependent for its development on the nurture and opportunity provided by environment. This must give a way of life that awakens intelligent interest and provides opportunity for purposeful

behaviour. Sensible toys and playthings are required to provoke and strengthen all types of mental activity—observation, attention, concentration, memory, judgment, and reason, as well as imagination and the power to plan. Unless the child has the chance of using his intelligence in a suitable environment, his mind, instead of becoming a keenly edged instrument with which to acquire knowledge and convert it into wisdom, ceases to develop, or develops so inadequately that it becomes a blunt tool with which the individual has to hack his way through life.

When any power or ability begins to develop it becomes for a time "centre stage", absorbing a great deal of the child's vitality and making him very sensitive to influences and education relating to it. Such sensitive periods are of considerable importance from the point of view of growth, learning, and the development of skill. At such moments environment is a vital factor. If the child is able to give full play to dawning ability, using his inner creative forces in that direction, in a rich and suggestive environment, he acquires skill, knowledge, and power naturally and easily to a degree impossible once the sensitive period is over and other aspects of growth set in. Educational opportunity and maturation should keep pace. The child who, at the sensitive period, is denied opportunity for learning or acquiring skill loses something for all time, for potential power denied nurture at the time of its greatest need either dies or remains infantile, or at best develops in an impoverished and unsatisfactory manner.

Conversely, attempts to teach or train a child in any specific direction "before he is neurologically ready to learn is wasteful of the child's time and energy"¹ For example, immature concentration on reading and writing deflects vital force from the growth of general intelligence and thus reduces the child's capacity for real education.

Education comes about as a result of interplay between the child and his environment and is always an individual process Each child selects what is necessary for him as an individual. No two children make the same use of similar opportunities each reacts in a different way, and is stimulated from within to follow his own pattern in the making of his personality The child has the capacity to educate himself and the nursery school gives him the fullest opportunity to exercise it.

Between 2 and 5 years of age the child passes through the sensitive period of various aspects of growth, and it is generally believed that the foundation of health and intelligence and the pattern which the child follows in the unfolding of his personality are laid down in these early years. After this age, growth is in the nature of extension, elaboration, or modification of the original design to which it adheres in all essential features If this be true, the years under 5 become the most important of life "Never again will the mind, character, spirit advance as rapidly as in the formative pre-school period Never again will the child have an equal chance to lay the foundation of mental health"²

¹ L. Wagoner, *Development of Learning*

² A. Gesell, *Mental Development in the pre-School Child*

It should therefore be a matter of national concern to secure that the foundation on which individual efficiency and national well-being rest is adequately laid.

When the child learns to walk and talk he enters upon a phase of life characterized by rapid growth of all his powers. Walking and talking bring him into contact with people in a way that is inspiring to both social and emotional development. His future happiness and usefulness as a member of the community depend, to a large extent, on learning at this time to adapt himself socially, and to control his emotions in relation to social needs. He is helped by association with other children, in playing with whom he learns to give and take, and to control impulses which might otherwise make him unwelcome and possibly exclude him from their games. The child whose social environment is unfavourable may suffer in many ways. He may remain stunted socially and emotionally, or become a recluse, shrinking from human contacts and contributing little or nothing to the community. He may become dependent upon others and be in constant need of sympathy and appreciation to stir him to action; or even anti-social, and a menace to the community. The emotional life is intense at 2 and 3 years of age, and emotions often conflict with one another. In learning to harmonize them and bring them under control the child has a difficult task and is in need of understanding help from adults.

The desire for independence and self-reliant action that arises rapidly at about 2 years of age

makes him wilful, obstinate, and passionately resentful of any restraint. This situation is rendered specially difficult when the child is always with his mother, as the strong emotional ties which bind them together often conflict with the powerful urge for independence. He is apt to push away angrily his mother's restraining hand, to become rebellious, self-willed, and obstinate. When she reacts with a reproof, the fear of losing her love (which to him also means security), fights with the impulse to free himself from her, and often causes inner conflict, anxiety, and unhappiness.

There is no doubt that at this period of psychological weaning, for which the child, especially if he is an only child, is as a rule more eager than his mother, he is very much helped by the way of life he finds in the nursery school. Tension is released, and in the happy, friendly, easy-going atmosphere of community with his peers, the child begins to get himself into perspective with adults, and to acquire a suitable attitude towards authority. Children learn more easily from one another, and under the unobtrusive but wise guidance of the teacher, the child in his play with other children begins to strike a balance, so necessary for mental and emotional health, between the two sides of his character. He learns to give and to take, to lead and to follow, to assert and to accept. The teacher retires into the background, leaving him to learn from his experience and experiments, but she keeps a watching brief, and maintains a good-humoured and happy atmosphere in the community.

The child usually accepts the guidance of a

teacher, and obeys her more readily than he does his mother. This is partly due to the fact that he is less emotionally bound to his teacher and is not trying to win his freedom from her as he is from his mother, on whom he has hitherto been completely dependent. He meets the teacher on a different footing, makes a fresh start with her, finds her loving but more detached and dispassionate, and soon realizes that she is ready to help him to be independent and self-reliant. Actually the teacher has no desire to restrict or restrain. Her duty is to encourage, and to redirect if by redirection she can help the child to acquire more adequate ways of expressing his impulses. She tries to help him less by direct guidance than by providing living situations that urge him to educate himself. "In the nursery school environment children's reactions tend to be directed towards the situation as a whole instead of towards the teacher as a person. In so far as this is true, teachers will remain educators instead of trainers, and the nursery school will be part of an educational process . . ."¹

Aggressiveness and obstinacy are normal and right in early years. If they find outlet in constructive channels, they are gradually transformed into strength of character. If, in addition to constructive outlet, the activity is given social significance, the children begin to associate their strongest impulses with the service of others. Outlet in this direction is possible in the nursery school to a degree impossible in an ordinary household. The children carry furniture about, roll logs and barrels up and down

¹ H. Johnson, *Children in the Nursery School*

the garden paths, make play-houses by piling large boxes and planks. They dig and hammer and pursue many occupations in which aggression and obstinacy are transmuted into determination, strength of will, and persistence of effort. Wherever possible the child's activities are interpreted socially, and he gains the impression that he is helping to make and arrange the nursery school for others to enjoy. He tears up papers to stuff balls for "babies", he hammers, pounds and pummels clay to prepare and make it plastic for others to use. So by the innumerable activities that are organized in the nursery school the child is helped step by step to control himself and use his powers for social needs. In this way he takes his first step on the road that—provided subsequent schooling is satisfactory—should lead to a strong social conscience in adulthood.

Nursery-school education is not confined to any part of the building nor to any particular part of the day. Everything the child finds to do—and he is busy all day at his self-chosen occupations—is of educative value. He learns to live by living. Meals, sleep, visits to the toilet, occur at regular times, but for the most part the child is left to play freely, either alone or in groups of his own choice, and to use such playthings as he chooses.

It is through play that he educates himself most fully. The garden in which much of the day is spent and the spacious open-air playrooms are furnished and equipped with toys and material that make for vigorous and varied activity and for purposeful occupations. There are runabout wheel toys in which things can be trundled from one part

of the garden to another, climbing-frames, chutes, slides, steps, sand pits, balancing-boards, as well as all sorts of play material that sets the child pulling, lifting, carrying, hauling, jumping, and swinging. Left to himself in a well-equipped setting, the child puts himself through a comprehensive course of physical training, in which the larger muscles and those required in manipulative skill are all called into play. He acquires considerable neuro-muscular control and co-ordination, grace of movement, skill of hand, and becomes robust, strong, and healthy.

The impulse to be active and the nature of the activity itself, are not entirely physiological. A rapidly growing intelligence urges the child to all kinds of experimental play and investigation. He wants to know about the world. In this quest the whole school becomes his laboratory, and is equipped in a way that makes for experiment and investigation. Toy cupboards and shelves to which he has free access are well stocked with playthings that have been carefully selected to meet the needs of increasing skill and growing intelligence, and also to awaken interest and attention. There are things to sort and classify that quicken the child's powers of observation and make him sensitively aware of shape, size, colour, texture and weight. There is plastic material—nature's playthings—sand, clay, earth, and water, and such objects as sieves, scoops, funnels, measure-pots, buckets, etc., with which this material can be used experimentally. In addition to free play with toys, the child enjoys joining in the various domestic activities—sweeping, dusting, polishing, scrubbing, setting tables and

serving meals. Such occupations, which satisfy the desire to play "being Mummy" are of educative value in many ways. They help to strengthen the social impulse by awakening a feeling of being part of the community. They create standards of order and cleanliness. They necessitate a certain amount of neuro-muscular control, and because all the furniture and utensils are suitable in size, these occupations help the child to feel himself to be the master of his world—a welcome change to one who, when not in the nursery school, has to adjust himself to adult surroundings and standards which put him at a disadvantage by reason of his inferior size and strength. In nursery school the day is unhurried, simple and natural, well balanced between activity and rest. It is for the child an enlargement of home life, and by means of the greater opportunities it provides for the use of his powers and for acquiring knowledge and skill, it prepares him for the future and saves him from the shock so often experienced when children leave the intimacy of their small homes for the rather awe-inspiring "big" school.

It is a feature of nursery education to attach much importance to all that makes for perfect health and growth, and to educate the body in "good behaviour." The standard of cleanliness of premises and equipment is high, and there is every facility for definite training in health habits. The child acquires a liking for suitable food, regular habits of eating, digestion, and elimination, of sleep and personal cleanliness, and all that is necessary to maintain the body in health.

"These are not purely physical matters. They are ways of living. they require a proper organization of the nervous system. The child who is not well trained in these everyday habits has not learned the first letter of the alphabet of nervous and mental health".¹ Except in regard to these habits, "training" does not occupy a prominent place. Training and education are not synonymous, and where emphasis is placed on training, the scope of education is often narrowed down and sometimes lost. Children are susceptible and adaptable, and can easily be trained to do tricks; much that has been called education in the past has consisted of little else. Habits and skills acquired too early in life are likely to produce something fixed and final in the realm of thought and behaviour, whereas all education at this age should contribute to the release of power and the stimulation of growth. Routine in the nursery school is therefore more suggestive than formal, organization is reduced to a minimum, and there is a careful avoidance of anything that tends to create automatic or mechanical behaviour. "Experience is to the child what the library is to the student",² and the nursery school day is full of rich experience through which the child learns to think and act with initiative and independence.

This training of attitude rather than of habitual response is necessary to-day if man is to keep his mind and spirit alive in spite of the deadening mechanization of life—a mechanization that brings

¹ A. Gesell, *Guidance and Mental Growth in Infant and Child*

² Grace Owen, *Education in the Nursery School*

NURSERY FOUNDATION OF CIVILIZATION

everything to him ready made with little effort on his part, and which, as Gilbert Murray puts it "diseducates". This danger should not be lost sight of at any stage of education, but it is of particular importance in pre-school years, when attitudes to life and patterns of thought and feeling are being established.

Until recently nursery schools have been limited to children between the ages of 2 and 5. There is now a move to extend the age to 7+, as is possible under the Act,¹ and to provide nursery education and nurture throughout the whole of the infant period. There is much to be said for this policy, which would save children from the change of treatment that is so often experienced in passing from the nursery to the infant school. Between 5 and 7 many of the powers which begin to take form in nursery school days reach a definite stage of maturity that marks the rounding off of the first phase of life. Education between the years of 2 and 7 should therefore be planned to meet the needs of the period as a whole, and should constitute a close following and fostering of growth. A sudden change in treatment of such a nature as to prevent completion of a stage of growth, as sometimes happens to a child at 5 years of age, is like the effect of frost in late spring which destroys the blossom at the height of its beauty and before

¹ Fisher Act, 1921, Clause 21 "The powers of local education authorities for elementary education shall include power to make arrangements for supplying or aiding the supply of nursery schools (which term shall include nursery classes) for children over two and under five years of age or such later age as may be approved by the Board of Education"

the setting of the fruit. If the nursery school period were to be extended to 7+, a different daily régime from that planned for 2- and 3-year-olds would be arranged for those over 5. Well planned educational environment must give to each stage of growth all that is necessary for its fulfilment. It must expand with the developing child, become wider in possibilities, richer in content, and present a progressive challenge to increasing skill. The 2-year-old is happy in occupations that give him mastery over his body and its mechanism, in investigating the nature and possibilities of his material world, and enjoying the feel, the sound, the sight of everything around him. The 7-year-old, with knowledge and power gained through these earlier experiments, wants to use his energy creatively and in a way that tests his skill. The urge towards creativity, towards the performance of definite tasks and the carrying out of plans, which is strong at about 6, represents, as it were, a crystallizing of potentialities nurtured in the nursery school days.

Nursery school education is scientific in method and spirit, and is characterized at its best by reverence for the mysterious creative forces within the child which it is the teacher's task to serve. It is designed to foster and aid natural growth by putting the child within reach of experience that will be of service to him in his task of building himself. Psychological and physiological research have provided considerable light by which those working in nursery schools are guided. It has not illuminated the whole child, but it has proved sufficient

to indicate that if teachers leave the young child alone with his play, and give only such help and guidance as will aid him to succeed in his efforts to educate himself, it is the greatest service they can render

Though still largely experimental, nursery schools have proved their value wherever they have been established. Children attending them grow healthy and strong, are alert and intelligent, full of interest, resourceful, courageous, self-reliant and independent. They are socially minded, friendly, "good mixers", and have a definite desire to work with others. It is clear that if every child were given the opportunity of this all-round development, the educational system and civilization itself would rest on a firmer foundation than is the case to-day. Unfortunately there is as yet in England and Wales nursery school accommodation for only 7000 children, out of a pre-school population of 1,670,000. A very large proportion of existing nursery schools is provided by voluntary effort

In a serious attempt at planning a modern state, the first step should surely be in the direction of removing nursery schools from permissive legislation. We should make it obligatory on Local Education Authorities to provide for the 2- to 5-year-old children in their areas as they are now compelled to provide for those over 5. It would not be necessary to make attendance compulsory, neither would it be desirable. The long waiting-lists and the ever-growing demand of parents in every class of society for nursery schools tell their own tale. The second step would be to extend nursery school care and

education throughout the whole infant period (2 to 7+). This would necessitate new and better buildings and gardens, equipped for living as well as for learning, smaller classes, an adequate standard of staffing and the inclusion of all the amenities associated with the nursery school.

Unhampered by tradition, the nursery school is making a fresh approach to education. The opportunity it gives to each child to develop his personality and to become as fine as is biologically possible for him, physically, intellectually, and emotionally, may in time go far to produce a finer type of human being than we know to-day. However this may be, the self-reliance, independence, intelligence, sociability, and physical development of children of 5 years of age who have attended a nursery school are so evidently superior to the attainments of children denied the opportunity, that the provision of nursery schools for all (and up to the age of 7+) must surely contribute in no small degree towards a general improvement in the standards of personal and social life.

The new approach to education brings with it the need for a new kind of teacher, and it has already been found that those most suitable for nursery school work should be specialists by training as well as by nature. Bertrand Russell, speaking of the road to progress in education as being "science wielded by love",¹ indicates the kind of teacher that the future will demand. If education is to fulfil its role as an experiment in biological science, the training of teachers must be overhauled as com-

¹ Bertrand Russell, *On Education*.

pletely as school methods. The fact that this overhauling is already in process in the case of nursery school teachers furnishes welcome evidence that the nursery school movement is coming to be recognized as an essential foundation of the system of education in the modern state.

CHAPTER III

FREEDOM AND CONTROL

ONE of the most agitated questions at the present day is how far education should consist in compelling a child to do and to think what we consider right, and how far in providing children with the necessary opportunities, and then allowing them to make what use of them they choose. We read of schools where the pupils need do no lessons unless they like, and where actions which in more conservative schools lead to punishment, often to corporal punishment, are regarded as harmless methods of self-expression. I do not think that these schools have been in existence long enough to enable us to judge of their permanent effects upon their pupils' characters, though I must confess to doubting whether a child whose method of self-expression is to throw food about the dining-room can have a self which is worth expressing. We do not regard a dog which makes a mess of our room, and which we make no attempt to check, as being on its way towards assuming the character of a good house-dog, and though we cannot equate humans with animals, yet some things that apply to the one may also apply to the other.

We surely wish our children to be clean, industrious, and reliable, and yet any steps we may take to make them so brings down the wrath of the modernists upon us. Bernard Shaw can say, and be applauded for saying, that " the vilest abortionist is he who seeks to mould a child's character "

What he and other persons apparently fail to realize is the difference between character as applied to social behaviour and character as applied to mental activities. A man may be completely vicious and uncontrolled without having the least real independence of character, and on the other hand may combine independence of character with the possession of all the conventional virtues. Yet it is commonly assumed by both conservatives and radicals that restraint of conduct and restraint of thought go hand in hand. The conservatives try to discipline ideas in the hope of thereby disciplining conduct, and the radicals refrain from disciplining conduct for fear of disciplining ideas.

Discipline of course involves obedience, but there are various kinds of obedience. In the army it is commonly said that he who has not learned to obey will never be able to command, yet those who say this never explain what they mean by obeying. It is certain that he who has learned to obey so thoroughly that he is afraid to do anything without first asking for orders will never be able to command anybody, but it is equally certain that he who has nothing at all to obey will never have the purposefulness necessary for command. Even the dictator has to learn obedience of a kind. He must spend his life in obeying the image of himself which

he and his followers have set up, and upon the continued prestige of which his power depends. The real Hitler has to spend his life in obeying the ideal Hitler, and the real Mussolini in obeying the ideal Mussolini. A distinguished Englishman told me that he had had a private interview with Mussolini, and that when they were alone together the latter became quite skittish. As, however, he approached the door to show his visitor out, he lowered his brow and compressed his lips. The real Mussolini was obeying the ideal Mussolini.

The point of this digression is that the word "obey" can be used in various senses, and that it is useless to talk about making children obey unless we have made up our minds what we mean by obedience. By the maxim that children should obey their parents some people mean that children should take all their opinions from their parents, adopt the careers chosen by their parents, and marry persons selected by them. Others might quote the same maxim, but understand by it merely that children should shut the door when asked by a parent.

We are always using such words as "character", "obedience", "freedom", but it is seldom that we ask ourselves what we mean by them. When Huxley said that "it is better to go wrong in freedom than right in chains", he said something that sounds very fine, but what exactly did he mean? He could not have meant that we ought to be free to rob and murder if we wish to do so, and that it would be wrong to restrain us. It must be clear to everyone that no community can exist unless the freedom of its members is

limited. The law limits our own freedom in a thousand ways, and I have little doubt that Huxley would have approved of nine-tenths of the limitations. It seems, then, absurd to bring up children to the idea that they should have complete freedom of self-expression, when they will have to live in a world of licensing laws, highway codes, eight-hour days, and all the restrictive paraphernalia of our civilization.

As for Bernard Shaw, he may say that the vilest abortionist is he who seeks to mould a child's character, but he is a moralist, and, like all moralists, spends his time in trying to mould the characters of us all, old and young. But I am in danger of imitating Shaw, in using the word "character" without defining it. I shall therefore attempt to define it, and shall say that a person's character is the sum of his mental habits. We do not normally apply the term to physical habits. To walk with a stoop may be described as characteristic of a man, but hardly as part of his character. Over-eating may be a physical habit, but it is due to greediness, which is a mental habit, and a part of many people's characters.

Before discussing the question of character-moulding, it is well to consider to what extent character is capable of being moulded. How far it is inborn is a question to which at present we can only guess the answer, but there can be little doubt that we are born with, at any rate, a tendency to develop in a particular way. There is also little doubt that first impressions upon the mind are much the strongest, and that the characters of children, if not inborn, are formed at a very early age, before

their parents or nurses are conscious of any attempt to teach them more than the rudiments of physical good behaviour. One must be very careful with this word "character", and when I said just now that the characters of children are formed at a very early age, I meant in their main outlines, the possibility of altering one's character probably continues throughout life, though the possible range of the alterations decreases with the decreasing elasticity of one's mind.

If, then, children's characters are formed in their main outlines before any conscious attempt is or can be made to mould them, there is no need for Mr. Shaw or anyone else to get excited about people who try to mould children's characters, since they are attempting what in its main features is an impossible task. And that it really is an impossible task is shown to a great extent by the experiences of Professor Burt and others who have attempted, often with success, the reformation of delinquent children. I think it summarizes Professor Burt's results very fairly to say that the art of reforming a delinquent child consists not in attempting to alter its character, but in altering its environment in such a way that the new environment harmonizes with the child's character better than the old environment did. Delinquency is due to discord between character and environment. There seems to be no question of employing moral sanctions, these are useless to a child in the wrong environment and unnecessary to a child in the right one.

It is, it must be confessed, very difficult to understand how, making every possible allowance for

heredity, children are as different as in fact they are, in particular, what it is that causes some children to have, and others not to have, that quality which we call independence of mind, and which leads a minority of people to form their own opinions. The majority, of course, take their opinions ready made from other people. This question is of great importance, since there is no doubt that a community in which there are no people of independent mind is doomed to stagnation and decay. From the point of view of progress and culture, to live on the past is to live on one's own tail. Tagore says that India has "withdrawn herself within a narrow barrier of obscurity, into a poverty of mind that dumbly revolves round itself in an unmeaning repetition of the past". The same fate must befall any community in which there are not persons of independent mind, persons who can break away, not merely from the past, but from the accepted beliefs, the slogans and catchwords of the day. A man I knew used to say that the only man of independent mind was the man of independent means. It is no doubt easier for a man of independent means to cultivate an independent mind, yet it seems that in favourable circumstances an independent mind can appear in all sorts and conditions of men. One of the chief objects of the innovators in education is to create or preserve this characteristic. I say to create or preserve, since there seems to be no sort of certainty as to whether it is innate or acquired. I am inclined to suppose that it is acquired, since if it were innate it should be more evenly distributed. If acquired, however, it

seems often to make its appearance where, according to the usual theories, one would not expect it. It may appear, for example, in people who in early childhood have been bullied and thrashed, and have had the most bigoted and dogmatic religious beliefs drummed into them. It seems possible, in fact, that independence of mind, if not innate, is likely to emerge as a reaction against a repressive early environment, rather than from one in which the child is allowed to do as he likes, and has nothing to react against.

A further reason leading to the same result is that the spoilt or unrestrained child may be so preoccupied with his own selfishness that he never acquires that variety of mental experience without which independence of mind cannot develop. We must distinguish independence of mind from mere obstinacy, in fact they are really opposites. The person of independent mind changes his mind if he finds reason to do so, it is in this that his independence consists. The obstinate person, on the other hand, cannot change his mind, he sticks to his opinion, right or wrong. Obstinacy, it would seem, is more likely to arise in the spoilt child who, since he is never headed off, fails to acquire the ability to modify his course.

On whichever side in the Spanish civil war our sympathies lie, we must all, I think, be surprised at the number of extremists there are on both sides, and at the lengths of cruelty, violence, and destruction they are prepared to go to get the better of their political opponents. We may contrast this with our own civil war, in the seventeenth

century, when many of the leaders on both sides were lukewarm, and things were seldom pushed to extremes. It seemed to me that I had found the explanation when I read Professor Starkie's *Spanish Raggle-Taggle*, in which he observes, not in this connection at all, that Spanish children are never disciplined.

I had previously noticed that among the Arabs the children, or at any rate the boys, are never disciplined, and there also we find the inability to realize that there are two sides to a question. It is, of course, a very old theory that absence of control makes for selfish and ill-behaved children, but what I have just said seems to show that it goes much further than that, that absence of control makes not merely for selfishness but for bigotry and fanaticism. In other words, that bigotry and fanaticism are not, as is commonly believed, the result of repression and the forcible inculcation of dogma, but on the contrary, are the result of an uncontrolled childhood.

The first essential of an independent mind is that it shall be free from bigotry and fanaticism, and it would seem that it is through a reaction against repression that this state of mind is most commonly reached. It would also seem that those who do not react to repression in this way do not develop the active qualities of bigotry and fanaticism, but rather a passive acceptance of conventional beliefs.

It is very doubtful whether, in ordinary life, an independent mind can exist in an unconventional body. A man who wears his hair and his clothes

differently from other people, talks differently, eats differently, and generally behaves differently, can preserve his independence of mind only if he is rich enough to cut himself off from ordinary human contacts. Otherwise the strain of supporting his outward eccentricities, with the repercussions which they inevitably cause, must absorb the greater part of his mental energies.

The man of independent mind conforms to the customs of his social environment. He knows that the attempt to struggle against them must dissipate a great part of his energies, and dissipate them in a cause which, if not harmful is futile, since no society can exist without conventions, and though some of them may be not altogether desirable, yet few if any of them are bad enough to justify the devotion of a lifetime to the attempt to abolish them.

The connection between social behaviour on the one hand and mind and morals on the other is grossly exaggerated. Our social behaviour is dictated by custom and is, for the most part, quite independent of our ideas and beliefs. We do what from early youth we have been told is the proper thing to do, without considering whether from any theoretical point of view it is right or wrong.

Think of the vast amount of time people spend in worrying about whether they ought to wear one form of dress or another. From an abstract point of view it may be regarded as immoral to dress dirtily or untidily, but it is not that that people worry about. If we happen to turn out in a soft shirt when the correct attire is a stiff one, or in a

white tie when everyone else is wearing a black one, we are miserable for the rest of the evening

Why do we take off our hat to a lady? As a sign of respect for her character? Far from it. The less regard we have for her character the more careful we are to take off our hat, since we know that ladies whose character is not above reproach are very easily insulted.

These are, of course, commonplaces, yet we continually talk, or some of us do, as if a sense of wrongdoing were always the result of a guilty conscience, that is to say of the consciousness of having done something which is morally indefensible. Most of us suffer far more as the result of breaches of etiquette than as the result of moral lapses

At my school there were a number of quite idiotic conventions. No boy, for example, who had not reached a certain degree of eminence, was allowed to wear the collar of his overcoat turned down, or to carry his umbrella rolled up

Did anyone ever violate these conventions? No, nor did anyone ever wish to. The title of those privileged to turn down their coat collars was recognized, and never resented in the slightest. It was regarded as natural that those who were exceptionally good at games should receive privileges, however stupid or ill-behaved they might be.

The worship of successful boxers and players at ball is of course a marked feature of modern life, as it was a marked feature of life in ancient Greece and Rome. Much the same kind of admiration is accorded to successful actors and film stars, and they are considered worthy not merely of admiration,

but of imitation. But nobody supposes these people to be exceptionally virtuous. This again indicates that behaviour has no connection with mind and morals. Yet theories of education, and of behaviour generally, are based on the theory that all behaviour is conditioned by hope of reward or fear of punishment. It was not fear of punishment that made me turn my collar up; I never thought of turning it down

The reader may say, "All these observations may be justified, but if they are, what are we to do about it?" The answer in my view is that we should force our social conventions upon our children without any attempt either to moralize upon them or to rationalize them.

If, instead of saying that thieves will go to prison or liars will go to Hell we could make people think that stealing is as bad as going to a funeral in a coloured tie, or lying as bad as frying a sausage on the parlour fire, we should achieve a colossal reformation

Let us give our children no reason at all for making them do what we want. Let us say to them, "Go and brush your hair at once, and don't argue". Brushing their hair will certainly not hurt them, but to act on dishonest or ill-considered reasons will. Our reasons will certainly be one or the other, since the real reason is one which we shall not give, namely snobbery. People whose children appear in public in an untidy state are in danger of being regarded as not really nice people, and of course nobody wishes to be thought of as not really nice. Keeping up appearances is the motive for most forms

of social conduct, and why not ? It is better to keep up appearances than not to keep up anything. But we cannot induce young children to care about appearances. We may ask our little boy why he cannot brush his hair like the little boy next door, but even if there is a model child next door, our little boy will probably hate him. It is far better to say, "You must brush your hair because I tell you to, and if you don't you will get no dinner. If you like to think hair-brushing silly, you can." Then, after a few, probably very few, rows, the boy gets into the habit of brushing his hair, and can turn his attention to things of greater importance.

The "modern" parent might disapprove of this, but if he did he would be in agreement with the savage. The savage lets his young children run completely wild, and never teaches them anything. It is not till he approaches adolescence that the young savage begins to learn the customs of his tribe. The result of this is not merely that he learns little else, but that he never thoroughly absorbs the customs themselves, so that they remain a burden to him all his life. This gives the savage the appearance of being a slave to custom, whereas we are slaves to custom to a far greater extent. The difference is that we, unlike the savage, have learnt our customs young enough for them to become second nature. This point has been well brought out by Professor Hocart, who observes: "Man is distinguished from the animals by his capacity to hand on to his posterity what he has acquired in his lifetime. The White Man is distinguished above others by his greater development of that capacity, by the

tremendous burden of custom he is able to bear almost without being aware of it."

He illustrates this by reference to the custom of washing the dead, a custom probably originating in an ancient pagan rite of helping the deceased to be reborn by pouring life-giving waters over his body. A European, asked why this is done, will say, "Why, it is only common decency!" while the savage will say, "It is our custom." The latter thus appears to be custom-ridden, whereas he is merely custom-conscious.

The motor-car has turned us, temporarily as I believe, from a law-abiding into a law-breaking nation, but if our children are accustomed, when still quite young, to all the regulations affecting cars, then our grandchildren will regard traffic lights, parking-places, and one-way streets as natural objects, and the Highway Code will be as dead as the Constitutions of Clarendon (whatever they were), or at any rate as superfluous as the notices which tell us not to cross the line except by the bridge.

Every civilized child, by the time that he reaches the age of fourteen, must have acquired two very different bodies of knowledge. The first is the customary lore, which enables the child to survive and to take his place in society, and also provides the cement by which society is held together. The second is that body of literary knowledge which is no doubt rightly considered an essential preliminary to every type of career. There is ample evidence that a child cannot acquire the second type of knowledge until he has acquired the first; in other words, he cannot be taught to read and write

properly until he has acquired not merely habits of tidiness and politeness, but an adequate social framework into which to put the words and ideas which he learns. Up to this point knowledge must be drilled into him, firstly because he has not yet learned to reason, and secondly because custom and language, being conventional, cannot be argued about. They should, however, be taught as conventions, and care should be taken not to associate them with moral values. The "good" child should merely be one who performs his task in a manner satisfactory to the teacher. The child will then reach the higher stages of his education with a body and mind trained to obedience, to eat, drink, read or write whatever he is told, but completely unhampered by any form of dogma.

The object should then be to develop in the child a critical attitude of mind, and this can be achieved by not asking him to believe anything that he learns in his lessons. It is remarkable, though seldom remarked, how very few definite facts we need to get along with, and how very few definite facts exist when compared with all the fictions, fallacies, unproved theories, and conventional abstractions which are taught to children as facts. There is no good reason why we should teach anything as a fact; if we were to divide all the assertions which children have to commit to memory into commonly accepted conventions and commonly accepted probabilities, the children would get just as many marks in the examinations, but without acquiring that dogmatic habit of mind which is the curse of mankind. We can see everywhere

in the world to-day the need of people who can see both sides of a question, yet teaching children to see both sides of a question forms no part of our educational system. The conservatives offer us the crushed child, who can see no view but that of his parents and teachers, the radicals offer us the spoiled child, who can see no view but his own, what we want is the child who will neither be crushed by nor struggle against our conventions, but will just grow through them

CHAPTER IV

FROM SCHOOL TO WORK

THE passing from school to work is the most momentous change in the child's life and it is possibly one of the most important changes that he will ever be called upon to make. The change from school to work is not merely a change from one environment to another, it is a change to a fundamentally different type of environment.

Up to the time of leaving school the adults with whom the child has been brought into close contact have all been engaged in seeking the child's good for its own sake and not for any gain to themselves. His parents have tried to bring him up so that his character develops properly, and his school teachers have been engaged in the same task in a different sphere. The home and educational systems are planned for the child, and the two together are meant to provide an atmosphere in which the young can develop what is best in them, physically, mentally, and morally.

In industry the matter is different, for on entering it the child immediately becomes an economic unit. Industry does not centre round the child, but on the contrary the child is required to contribute

his share in the production of wealth. It is this fundamental difference in attitude towards the child between the educational and industrial systems that makes the change from the former to the latter a real upheaval in children's lives. The importance of the change is recognized by the child. He manifests at this period considerable excitement, which may show itself in anxiety, in an almost unnatural seriousness or in an unbalanced keenness. Sometimes he shows much eagerness for the change, but for the most part a good deal of reluctance. Whatever his attitude may be, it is not a very balanced one and this fact alone often renders his judgments about his own vocation of little value. The fact that the change usually occurs either just prior to or during the adolescent period complicates matters still further. If a decision has to be made as to a future occupation before the child has arrived at adolescence, his mental development is still immature and many of his latent abilities have not manifested themselves. If it is made during the adolescent period, his mental life is usually so upset as to make it difficult for him to take a clear view of the various possibilities open to him.

The task of the vocational adviser is to try to get some measure of the child's fundamental abilities, in the hope that advice based on such knowledge will be of more value in the long run than impressions gained by merely considering the more ephemeral aspects of his character which are apt to predominate at this period.

For the sake of clearness I shall confine myself in this chapter to the vocational problems of the

boy, partly because my work has never brought me into close contact with vocational guidance among girls and partly because the vocational guidance of boys is really more important than that of girls. Under our present social system the employment of women in industry is for the most part temporary, since on marriage most women leave industry and devote themselves to the home. This being so, the vocational guidance of girls is not concerned with the distant future to anything like the extent that it is in the case of boys. In guiding boys we cannot confine ourselves to considering how they can usefully earn their living up to the age of 25, but we must consider how earning their living in the immediate present is going to affect their adult lives and their chances of filling throughout them the most useful position their abilities make possible.

Let us consider first the boys of 14 or 15 who are about to leave an elementary school. The first thing to bear in mind is that a selection has already taken place in the elementary school population at the age of 11. At that age a selective examination is taken for positions in secondary, technical, and central schools, so that many of the best boys intellectually will not be found among the elementary school leavers. Without considering the question whether our present methods of selection at the age of 11 are the best that could be devised, it is quite certain that many boys of real ability fail in the examination at 11 and are subsequently found among the elementary school leavers. If the vocational adviser can discover

these and guide them into suitable occupations he will be doing a real service

To some extent they can be discovered by ordinary scholastic tests, but it often happens that these particular boys are not good at purely scholastic attainments and that their real abilities are only revealed by intelligence tests, performance tests, or tests for special abilities. In guiding these towards a skilled occupation it must be borne in mind that they will be in competition with those who at the age of 11 were selected for a higher education than is given in the elementary schools, so that only those with real ability should be advised to enter the skilled occupations

Although the vocational adviser in the elementary school will find among his subjects many suitable for skilled occupations, he must avoid the social snobbery of those who assume that a skilled occupation should be the goal for all. Many boys are not fitted for skilled trades either on account of their abilities or their social outlook, and, moreover, there are many occupations not usually classified as skilled which offer a pleasant livelihood of useful service to the right type of boy. The vocational adviser, therefore, should not concern himself merely with selecting the best of the school population for skilled occupations but should endeavour to guide each boy into the occupation for which he appears best fitted.

There are certain occupations which, often on inadequate grounds, are called "blind alley" occupations. There are some definitely "blind-alley" occupations where the experience gained is

of little value in any other occupation and where the occupation itself ceases after a few years, into which it is not advisable for any but the dullest boys to enter. It is, however, often a good thing for immature boys to become messengers or page-boys in good organizations where they will have their experience of people enlarged and their wits sharpened, and not be confined to a monotonous or strenuous task during their growing period. It is, of course, unwise for boys with sufficient ability for skilled occupations to begin their industrial life in this way, because they will not be able to acquire the technical skill and education necessary for success in such trades.

Unless some attempt is made to differentiate between the abilities of elementary school leavers, they are apt to enter industry in a rather haphazard way. This results in some being put into skilled occupations which are beyond their capacity and in others being put into unskilled occupations in which they become dissatisfied. In the former case the boy starts his industrial life by failing to come up to expectations, and in the latter he realizes at a later age that he wants, and is capable of, a skilled trade, but that there is no chance of starting at that age. In both cases this is apt to give rise to a feeling of resentment which can easily develop into a general attitude on life and may be the cause of much unhappiness.

The choice of occupation for the secondary school boy is not quite such a shot in the dark as it is for the elementary school leaver. He is more mature and his vocational wishes are likely to be

based on surer ground than are those of younger boys, but he is often surprisingly ignorant of what is involved in different occupations and needs careful guidance if he is not to start life with an initial failure or disappointment

The general principles that must guide the vocational adviser are that the boy should be directed towards an occupation for which he has the necessary ability and towards which he has the proper sentiments. It is possible to some extent to measure ability by means of psychological tests, but a good performance in tests which are known to have predictive value for success in certain occupations does not indicate that the boy should necessarily follow one of those occupations. It only tells us that if for other reasons he decided to enter one of those occupations, the indications are that he would be successful. It is the temperamental factors that tend to fix the attitude of the boy to his occupation that are so important and about these, at present, we know least

Most boys of school-leaving age when asked what they want to be will name some occupation, but this is not a very sure indication for the vocational adviser. A boy may say he wants to be an engineer because he has a real love of mechanical things, and possibly real ability with them, because his friends are going to be engineers, because a well-known local firm is engaged in engineering, because he believes engineering to be a superior occupation with prospects, because it is factory and not office work, or because his parents or teachers have suggested it to him

Each of these reasons for wanting to be an engineer indicates temperamental differences. To want an occupation because one's friends are in it or because one's parents have suggested it, may merely indicate a desire to co-operate with others rather than a real desire for that occupation. To want an occupation because it is thought to offer security or superior social position, may merely indicate certain social aspirations which could be equally well satisfied in some other occupation.

Before agreeing with, or opposing, a boy's wish for a particular occupation, some attempt should always be made to find out the basis of the choice. This is not always easy, for young people find difficulty in analysing their motives and unless care is taken in approaching the matter the boy may easily give answers prompted by suggestions implied in the questions he is asked.

It is impossible at present for every child to receive expert psychological vocational guidance because there are not sufficient people properly trained, but far more care, even with our present facilities, could be given to helping the young to choose their careers. It is possible by means of psychological tests that can be given to groups of children and easily scored, to get measures of intelligence and of certain special aptitudes which would be useful material in helping the young to arrive at a wise decision about their future careers. Much more could be done by personal interviews to determine the real desires of the young and judge of their vocational value. In many cases boys are directed towards occupations without any previous

private interview with a disinterested person and such direction as is given is often based on a very insecure foundation. The result is that some boys change their occupation far too often in their early industrial career and by so doing may easily form shiftless habits which may prevent their development into useful citizens. A little more attention paid to them at a time when they are making such a momentous decision as the choice of a career seems to be the very least that every child ought to be able to claim from society.

CHAPTER V

THE ROAD THROUGH ADOLESCENCE

IN no part of the educational system of a modern State is there such acute need for development and reorientation as there is in the provisions made for the education of adolescents. In the first place, it is only beginning to be realized that a modern industrialized State cannot develop, nor indeed even maintain itself, without the most varied facilities for the technical training and the liberal education of its adolescents. The complexity of its industrial and commercial life, the specialism of its professions and technologies, and the wealth and many-sidedness of its cultural heritage make it essential that the members of the next generation should have a longer period of preparation and adjustment than was formerly appropriate in a simpler kind of society.

If, in addition, the form of its government is democratic, and the whole structure of its communal life is based on the belief that each individual is of value and consequently that all, irrespective of parentage, possessions, class, or sex, should have the full responsibilities of citizenship, then the demand for appropriate opportunities for free

development for all kinds of individuals during adolescence would seem to be reasonable and indeed irresistible

That there are growing points in adolescent education both in this and other modern democracies is obvious. There is a general tendency to raise the school-leaving age (expressed in this country with customary slow and sure gradualness), there is a powerful movement towards the democratization of all forms of higher education; and there are expansions of provisions for secondary, technical, and university education

It is perhaps inevitable that there should be resistance to these developments from the backward-looking section of the community. But at present there is also confusion in the minds of the forward-looking supporters of these movements. They are by no means clear as to the kind of changes (if any) which it will be necessary to effect in traditional forms of education in order to make worth while these expansions of provision. The scientific tendency to psychologize education, that is, to adjust it to the successive stages of development, and to the variety of individuals for whom provision should be made, has not yet fully impinged on the democratic movement in education. The practical result is that in some cases well-intentioned democrats, who are hypnotized by catch-phrases, such as "Secondary Education for All" and "The Open Road to the University", are guilty of psychical cruelty in sending their own and other people's children to schools which do not fit them, and to universities which only

provide them with crushing experiences of failure

The democratic ideal of *equality* of educational opportunity must, of course, be implemented in our constructive policy for adolescent education, but it must not be misinterpreted to mean *identity* of provision for all varieties of needs and native abilities. The democratic view is not inconsistent with scientific differentiation. No one would argue, for example, that it is undemocratic to provide special facilities and aids for the education of the blind, the deaf and dumb, and the defective, to suit their special needs. Yet it is no more inconsistent with democratic principles to provide also the exact facilities necessary for the full development of the exceptionally highly gifted members of the community, so that in their case also there may be no wastage of power and originality. What is undemocratic is to allow artificial barriers, such as poverty, "blind alley" employment, and class-distinctions, to hinder creative growth and thus to prevent individuals, whether average, exceptionally gifted, or below normal, from attaining their full physical, mental, and moral statures.

In attempting to outline an effective and a democratic policy for the education of adolescents, it will then be necessary, while bearing in mind the conditions of the society of which they are to be members, to be influenced primarily by the accumulated scientific knowledge concerning the common characteristics and the variety of individual endowments found among adolescents. Fortunately the chief facts are now beyond dispute.

Youth is essentially a period of creativeness

and adventure in the life-histories of individuals. It consists of a "springing-up" period (early adolescence), followed by a sub-period of consolidation (late adolescence). From 11 or 12 to 16 or 17 there is usually an acceleration in the rate of growth, as compared with the rates characteristic of the preceding period of childhood and the subsequent period of late adolescence. There are rapid increases in height, weight, and muscular powers, and the same period sees the maturing of the sex functions, together with far-reaching changes in the whole metabolism of the body.

There are equally striking and characteristic developments of mind and character. There is an increased power of abstraction, a rapid growth of intellectual and practical interests, and an apparent maturing of general intelligence (as measured by intelligence tests). There are new and deeper emotional experiences, such as an increased feeling for self, the rise or intensification of sexual, social, aesthetic, and religious emotions. Corresponding to these developments in the feeling aspect of experience, there are the beginnings of the three major adjustments of life: firstly, the finding of a job and of psychological, as well as economic, independence; secondly, the finding of a mate and the founding of a family; and thirdly, the search for a philosophy of life, or a religion, and the adoption of an ethical code.

These developments occur rapidly in early adolescence. They continue and are consolidated during late adolescence, when growth tends to slow down. Under the conditions of life in this

country, they are common, with only slight variations, to different social classes, to the two sexes and to different levels of native ability. They thus constitute an unanswerable case for *universal* continued education, at least until the end of the sub-period of rapid growth, but, let it be said at once, they also indicate a kind of education for the great majority which should differ considerably from that of the traditional secondary school.

In scientific planning for the education of adolescents it is obviously necessary to take into account the variations in native ability, as well as the developments characteristic of this particular stage of growth. The most important, though not the sole, factor in determining educability (and therefore vocation) is undoubtedly general intelligence. Recent surveys of the general intelligence of children, such as those of Professor Cyril Burt in London and Liverpool, of Professor Godfrey Thomson in Northumberland, and of the Scottish Council of Research in Education throughout Scotland, have revealed a wide range of variations, and have already provided us with a rough guide of the proportion of each level of ability, which is likely to be found in the total adolescent population.

In the age-groups where differentiation would need to be effected, namely 11 to 12 and 12 to 13, intelligence quotients have been found to vary from below 25 to above 180. Between 50 and 60 per cent of the cases are found to cluster round the average, with I.Q.'s from 90 to 110. Some 20 to 25 per cent stand above these in general ability, and about the same proportion below

Only about 3 per cent have I.Q.'s exceeding 130, and about 1 in every 1000 has an I.Q. of over 150.

In the case of the vast majority, general intelligence as measured by standardized tests seems to reach a maximum for each individual by about 16 years of age though in the case of exceptionally gifted individuals it seems probable that growth of intelligence continues until 17 or 18.

In the light of this psychological knowledge, it is now possible to consider, in broad outline and with due recognition of the conditions of modern life, the outstanding current problems of adolescent education.

The first group of questions concerns early adolescence. What length and kind of education is appropriate for the majority during this period? Should it be a shortened and anæmic copy of traditional Grammar School education, or is there need for the parallel growth of a new tradition of adolescent education? What differentiations of provision are necessary to meet the needs of boys and girls of varying interests and abilities? And how should these be related to the jobs which they hope to get, or the work which they will afterwards have to do?

In most modern States these and similar problems have been widely discussed and many experiments have recently been tried with a view to their solution. In this country in 1926 the Consultative Committee of the Board of Education, of which Sir Henry Hadow was chairman, issued a report on *The Education of the Adolescent*,

in which a clear lead was given to local education authorities to experiment with differentiated schools for adolescents. This report not only recommended the raising of the school-leaving age, but also set out a scheme of reorganization for making the proposed extension effective. This involved several new features, the chief of which were a clean cut at about the age of 11+ between primary and adolescent education, differentiation of provision for adolescent education, and an end-on arrangement between primary and all forms of secondary (post-primary) education.

At the time of the issue of this report only about 9 per cent of the children in attendance at elementary schools passed on to secondary schools to continue their education. The rest remained where they were until 14, in schools unsuitable for adolescents. Many of these became increasingly bored with school life and merely marked time until they could escape into the real world, when not infrequently they again found themselves in "blind alley" occupations. After spending some of the most critical and formative years of their lives in "blind alley" jobs, working under conditions hardly likely to foster their physical, mental, or moral health, they might be told that their services were no longer required. At 16 or even later, they would thus find themselves in a scramble for work, without vocational guidance or preparatory training for any special job, without practice in the use of their matured intelligence, with little understanding of their newly acquired sex functions, and with little moral stability, or

sense of citizenship No modern State can justify such a failure to provide a road through adolescence for so many of its future citizens, nor can it long survive wastage of human creativeness on such a scale It is to the lasting credit of the Consultative Committee of the Board of Education that it realized the urgency of this national problem and made practical proposals for its solution

Since the publication of the Hadow Report the movement for expanding and differentiating adolescent education has steadily gone forward, notwithstanding set-backs due to economic difficulties In the first place there has been a considerable increase in the last ten or twelve years in the total secondary school population (including the pupils attending both public schools and grant-aided secondary schools) There has also been an increase in the number of children proceeding from elementary to secondary schools, the official figures for England and Wales in 1925-26 being 62,233 and in 1935-36, 74,960¹ There has at the same time been a welcome and growing increase of flexibility in the secondary school curriculum

It should, however, be noticed that notwithstanding extensions of secondary school provision, only about 11 per cent of the total elementary school-leavers in England and Wales proceeded in 1935-36 to secondary schools, whereas from 20 to 25 per cent of the appropriate age-groups have I Q.'s exceeding 110 per cent In Wales, the proportion of children proceeding from elementary

¹ *Statistics of Public Education, 1925-26 and 1935-36* H M S O

to secondary schools was considerably higher (20.5 per cent). Assuming that secondary schools and selective central schools should together meet the needs of adolescents of more than average general intelligence, it must be admitted that in England, even if there were no errors of selection and no "skewing" of the process to the disadvantage of the poorer children, the existing accommodation for pupils of this high level of ability remains inadequate. There is, therefore, need for still further expansion of this type of provision, either in secondary schools with an academic bias side by side with selective central schools with a practical bias, or in multi-lateral secondary schools, catering both for pupils whose interests are predominantly academic and for those whose interests are mainly practical.

In addition, many local educational authorities have been experimenting with other kinds of schools, suitable for adolescents of average and of less than average ability. Some progressive authorities have practically completed the reconstruction of buildings, the changes of staffing and the administrative reorganization necessary for transferring, at the age of 11+, all the normal children in their areas to schools appropriate for adolescents, either secondary, selective central, junior technical or senior schools.

It is true that some reformers have toyed with the attractive, though doctrinaire, conception of multi-lateral secondary schools to suit all levels of ability. Apart altogether from the practical difficulties in the way of implementing on such a large scale a proposal of this kind, it is extremely doubtful whether

it would really meet the needs of the less gifted majority. The great hope of the future is in the *open* tradition of the new senior schools, with their possible close relationship with the workaday world and their complete freedom from the examination bogey, which unfortunately holds the secondary schools in thrall.

Education in the senior school should be designed to encourage the many-sided development of boys and girls, whose intellectual abilities may not be outstanding, but whose skill, common sense, strength of purpose, and willingness to serve their fellows will make them valuable members, and indeed eventually the backbone, of the community. The training given should make possible for them healthy growth of body, mind, and character, as well as the development of any special talents which they happen to possess. The three R's will have been already mastered in the majority of cases; and the senior school should therefore not set out to teach subjects so much as to prepare its pupils for the major adjustments of adolescence—the finding of a job, the later exercise of parental and citizenship functions, and the adoption of a moral code.

The conditions provided should be nearer those of the famous American Gary schools than of our traditional grammar schools. In those schools, education centres round purposeful activities rather than academic subjects of study. The pupils are engaged in various occupations, such as the repairing and manufacture of school equipment, the cooking of their own meals and the printing of the notices that it is desired to send to their parents from the

school The underlying idea is to utilize various forms of occupation, typifying social callings to bring out their intellectual and moral content, and thus to introduce the pupils to the conditions and institutions of their modern environment

The training given in the senior school should not, of course, be narrowly vocational At this stage, flexibility rather than proficiency in a particular job should be the objective Specialized technical training should come later towards the end and not the beginning of the period of rapid many-sided growth, when with guidance and in the light of the tentative try-outs of occupations in the senior school, useful decisions in regard to future vocation can be reached

Important as it is that the adolescent's urge towards finding a vocation should be recognized in his education, and that modern industry and the sciences on which it depends should penetrate and invigorate the senior school, it is also equally important that none of the other characteristic developments of early adolescence should be ignored. There should be opportunities for games and recreation, for physical training and for some simple study of biology and hygiene (including sex hygiene) There should be training in the appreciation of beauty, and opportunities for enjoying music, art, poetry, and the drama There should be education for citizenship and this will involve not only the acquiring of an elementary knowledge of local government, national and international problems, but also the practice of co-operation within the school community The kind of discipline used and the methods adopted in

work and play should be suitable for early adolescence, and in particular should actively encourage that characteristic social development aptly described by Piaget as "the transition from a morality of constraint to a morality of co-operation".

Within some such framework, the senior school shows promise of developing a new tradition of adolescent education, adjusted to the needs of pupils of average, and not exceptional, ability, and orientated to the conditions of life in a modern democracy. Heaven continue to preserve it from the cramping influence of school-leaving certificate examinations and from the dead hand of matriculation requirements!

Notwithstanding active encouragement by the Board of Education, there are still some local education authorities whose "reorganization" schemes are not near completion, and others who after ten years have hardly begun to implement the new national policy. It is to be hoped that these backward authorities will now realize that, without the provision of senior schools, the 1936 Act, which raised the school-leaving age to 15 (though with certain exemptions), will be worse than useless but with reorganization it provides a great opportunity for improving the education of the great majority of adolescents.

The second group of problems concerning education in late adolescence, though not unrelated to the first, presents many more difficulties in the way of ordered solution. There is at present an urgent need for a carefully thought-out policy in regard to

full-time and part-time continued education beyond the secondary stage. There will be another chapter dealing with non-university colleges, and with part-time education in late adolescence, and I shall therefore only deal with the remaining problem in this group, namely, the special contribution which the universities should make in a modern democratic State.

Within the last twenty years there have been large increases in the proportion of university students to total population in most modern States. and in some countries there has resulted such serious overcrowding of the professions that drastic steps have recently been taken to limit severely the entry of students to institutions of higher learning. For example, in Germany a reduction of about 40 per cent was effected between 1932 and 1935 and the criteria of selection adopted to effect this limitation were such as to alter radically the German universities, which now serve the interests of the State in accordance with Nazi views.

Although graduate unemployment in this country has not reached such serious proportions as in most other European countries, there has been enough of it to raise doubts and questions in the minds of many concerning the functions of universities, and concerning their relation to other institutions of higher education. It has, therefore, now become necessary to take stock of the existing provision and to endeavour to answer certain fundamental questions which should determine future higher educational policy. Is there overcrowding of the universities of this country, and is there need for limitation of students, or for expansion of provision? Is the

British university tradition sufficiently flexible to meet the needs of modern society? What should be the function of a university in a democracy?

At the beginning of the last century Oxford and Cambridge were the only universities existing in England and Wales, though Scotland then had its own university system. Within the last hundred years there has gradually developed, in addition to London University, with its many constituent colleges, a regional university system throughout England and Wales. The newer universities, like the older, have been to a large extent dependent on private benefactions for development. Although they now receive large grants from the national exchequer for maintenance, administered through the University Grants Committee, they have a considerable measure of freedom and are still only loosely associated with the State.

The newer universities have grown side by side with, and in the closest relationship to, the expanded system of grant-aided secondary education: so that it has now become possible for any secondary school pupil of outstanding ability to continue his or her full-time education into late adolescence, aided, if need be, by government grant, university, local education authority, or State scholarship. The older universities too have recently opened their doors to the best products of the grant-aided secondary schools. There is therefore now an open road for boys and girls of outstanding ability to pass from elementary to secondary school and thence to the university. But it must be admitted that the difficulties to be surmounted by the applicants for uni-

versity education, who are without private means, are still such that many exceptionally gifted individuals, who would greatly value the opportunity, fail to enter upon the course

The expansion and democratization of university education has naturally resulted in a steady increase in the number of full-time students attending universities and university colleges. Thus, according to the returns published in the last report of the University Grants Committee, the number of university students in Great Britain increased by more than 150 per cent from the beginning of the century, and in 1934-35 (the last year for which figures are available) exceeded 50,000. In addition, there were approximately 7000 students in senior technical institutions, of whom about 1900 were taking university courses.

At first sight, these figures may appear to indicate a satisfactory development of facilities for higher education, especially when it is remembered that courses of training for some professions, such as, for example, law and elementary school teaching, are not confined to the universities. But further analysis shows that the proportion of full-time students to the total population is still low in Great Britain, as compared with other democratic States. In his recently published book entitled *Unemployment in the Learned Professions*, Dr. Walter Kotschnig estimates the proportion of students to the total population (in 1934) as 1 in 885 in Great Britain, 1 in 808 in Italy; 1 in 604 in Germany; 1 in 480 in France, 1 in 387 in Switzerland, and 1 in 125 in the United States of America. There are interesting

differences within Great Britain itself, the proportion varying from 1 in 1013 for England, 1 in 741 for Wales, and 1 in 473 for Scotland

It is evident from these figures alone that there must be a fundamental difference of policy in regard to university education in Great Britain and, say, in the United States. The majority of students in this country proceed to the universities with a view to entering one of the learned professions, chiefly teaching, medicine, the church, and law, whereas many American students enter for the experience of university life and afterwards take up all kinds of occupations. As might therefore be expected, there are greater varieties of courses in American universities and, in general, there is a less severely intellectualist tradition. In some cases there is probably a lower standard of scholarship, but there is also a closer relation between universities and modern conditions of life. The more lavish spending on universities in America may be partly the cause and partly the effect of these differences.

The British universities are now endeavouring, so far as funds permit, to develop courses in the Applied Sciences, such as Engineering, Mining, Metallurgy, Education, Pharmacy, Domestic and Social Science, and in Commerce, Art, and Architecture, at a standard comparable to that which now pertains in degrees in Arts, Pure Science, and Medicine. To further this end, there is need for expenditure on universities on a much larger scale and there is also need for more systematic co-operation between universities and technical colleges.

Side by side with this movement to adjust university education more exactly to the needs of modern life, there is also a strong tendency in this country to raise the standard of entrance to universities and thus to eliminate some of the existing overlap between the sixth-form work of the secondary school and the first-year studies of the university. There is much to be said for the policy of raising the matriculation standard, or of otherwise limiting university education, by psychological means, to individuals of exceptional ability. The functions of the university would thereby become more clearly differentiated from those of other institutions also offering full-time courses of training. For example, if university entrance were limited to the 3 per cent of the appropriate age-groups with I.Q.'s of over 130 per cent, the methods of teaching and discipline could be more exactly adjusted to the more homogeneous group that would result. In time, this would probably lead to a higher standard of work and to more post-graduate courses of study, and thus the research, as well as the teaching, functions of the universities could be duly emphasized.

If the raising of the standard of admission were effected in conjunction with the necessary broadening of the curriculum to suit modern conditions, it would mean that, while still supplying many (though not all) of the recruits for the learned professions, the universities would also be able to send a regular quota of highly gifted and well-educated men and women into business, industry, commerce, home-making, and public administration.

The democratic ideal of university education implies that there should be a mixing of social classes in the universities, and that the selection of students should be governed entirely by educational and psychological considerations. It is no doubt expedient to limit the entrants to specialized professional training courses according to the prospects of subsequent employment, but this necessity should not be regarded as justifying the denial of the opportunity for a liberal education in a university to individuals of outstanding ability.

In order to eliminate the serious wastage of high ability which now takes place, public funds will need to be more readily available for the maintenance, in residence, at universities, of suitable candidates who lack the requisite private means. At present many exceptionally gifted boys and girls, obviously of university type, are forced to accept safe employment, such as that in the lower grades of the Civil Service, direct from the secondary schools. If they had the advantages of a university education, they would be the very kind of recruits for the higher branches of the Civil Service, which the Commissioners now find it hard to discover. There is then need for scientific vocational guidance towards the end of the secondary school stage, and for the provision of more generous financial assistance in cases of need for suitable candidates to proceed to the universities. The only way in which many such candidates can now obtain a university education is by entering a university training department and signing a declaration of intention to teach. Obviously a democracy should make special State provision to ensure an

adequate supply of teachers from the universities, for education is one of its essential social services. But it should also make adequate provision for students of exceptional ability to pass freely through the universities, so that they may render services to the community, as needs arise, along lines of their own choosing. In a democracy there should be individuals in all walks of life who have been trained to think clearly and without prejudice, who are able to perceive intricate interrelations between problems, and, most important of all, who are willing to render to the community services commensurate with their abilities. The best preliminary training for this kind of service is residence in a university, where there are students preparing for various careers and drawn from different social classes, and where there are opportunities for active sport, intellectual adventure, and the practice of co-operation under conditions of freedom and self-government.

Whatever may be true of other kinds of societies, the universities of a democracy should not be at the beck and call of the State. They should rather be its growing points, the spearhead of its further evolution. It is part of their essential function to sponsor new discoveries and to extend the boundaries of knowledge. For this, they must be free to serve disinterestedly the cause of truth, which knows no national barriers. The British universities, with all their obvious defects of equipment, conditions of residence, student health services, curricula and staffing, have succeeded in preserving their freedom, and have therefore kept the way open for the fulfilment of their essential purpose in a democratic State.

CHAPTER VI

THE IMPORTANCE OF THE NON- UNIVERSITY COLLEGE

OUR joint undertaking has taken shape so far in a general survey first of the nursery foundations, then of the school, then of the passage from school direct to work, and lastly of an alternative passage through the university. We have still to consider other passages and to inquire about their future.

Full-time education and training for persons over 17 are carried on in a great many different institutions. Besides the universities there are the institutes and the technical schools and colleges, some of them of great size and importance. There are schools of music and art and dramatic art, and secretarial schools and business colleges. There are horticultural and agricultural colleges, colleges for physical training, domestic science colleges for women, hospitals training their nurses full-time for three years, schools for veterinary surgeons, schools for deaconesses and missionaries. The list probably grows every year and the number of students is very large. Whitaker for 1937 gives the most recent figure for university undergraduates in England and Wales as approximately 43,000, but

the Board of Education's report on 1936 gives the non-university full-time students, in technical schools and schools of art alone, as 43,900 (The part-time figure is nearly 1,100,000)

As regards the subjects taught, there is clearly an overlapping both with general university education and with the special faculties of Agriculture or Engineering or Applied Science, of Art and Music, and the rest, which we find within different universities. The overlap is likely to grow with the widening of university studies, which shows no sign of having come to an end. Are we to say then that a proper organization will some day gather within university walls the whole mass of students, of whom at present the university students are no more than a minority? To say this would be to go counter to an opposite movement which also shows no sign of having come to an end—the gradual raising of university standards. This means not only an insistence on better preparation, but also an unwillingness to take charge of students who have less than a certain level of natural ability. I believe that this is a proper restriction, that no institution attempting to deal with too wide a range of levels can do justice at once to the top and to the bottom. But then we ought to make it a point of honour that the candidates who are thus excluded or who do not seek a university training, should still, to the full number desiring it, find the education and training that fits them best, and find it provided in the best way.

We look forward to the ultimate cessation of all need to classify by parental income, and we hope

for a splendid increase in university numbers as the obstacles of poverty are progressively overcome. But it would be another matter to give up the attempt to classify somehow according to mental power (however imperfect our means may often prove). The educational need for some selection of entrants increases with the age of those with whom an institution deals. A school for children under 12 can deal with a wide range of natural ability by exploiting the useful handicap of age, since a year's development in childhood brings so clear an addition to the ability concerned; but in adolescence the yearly additions are sharply tapering off, and at its end we cannot normally reckon on natural powers being any greater at 20 than they were at 19. If the principle of selection is admitted, then as we look forward to university increase we ought to look forward also to an equal or greater increase in the provision needed outside the universities. Our divisions will not be hard and fast, and allowance must be made for the growth of interest and for a certain amount of acquired power, as well as for errors in our initial judgment. We should enable suitable students to pass from the non-university college to the university, as they pass now from one university to another which has more resources for graduate work. But this is an elasticity brought in to improve selection, not an abandonment of the principle of selection. The universities in the end may be asked to teach all subjects, but they ought not to be asked to teach all students; and for those whom they do not accept, a wise nation will seek to provide

something that is no less good in its own kind, since a mere refusal would be an unworthy response to the worthy desire for education and training. We must recognize the non-university college as having a permanent and important part to play.

"The technical school prepares for earning a living, the university prepares for life"—can we not abolish that ancient dogma? The university from earliest days has prepared for earning a living, and a good technical school already gives some fine preparation for life, and can be helped to give more. We can go on improving the staffing, and the building, and the library, and the government, and, if we wish, we can combine institutions which by themselves might be too narrowly specialist. Why should it be only within a university that several sides of life should combine? Above all, wherever there is opportunity, we can develop and improve the provision for residence. The enormous gain to the young of living for a while together, under good conditions in a full and ordered life, is not to be restricted to those who can enter universities.

The university, we hope, will send recruits into every occupation, sometimes supplying the whole of a special department or grade (the physicians, for instance, amongst the health-workers), and sometimes sending potential leaders into every department. On the other hand we ought not, I believe, to expect that any great profession should be completely supplied from within the university. With regard to most professions this is not disputed. No one has urged that all engineers or all agriculturalists

should reach their work by way of a university course. But, if we take current discussion seriously, such a claim is sometimes made in respect of the profession of teaching. I believe that this claim is mistaken, and that it involves some practical dangers which make it desirable to discuss the question in detail.

The position in England and Wales is roughly as follows. The profession loses each year about 6000 certificated teachers and about 2500 uncertificated, and, with some gradual improvement in standard, and some diminution in numbers on account of the falling school population, these have to be replaced. The uncertificated replacement comes mainly from those whose education ceased when they left the secondary school. The certificated contribution comes to the extent of about 4000 from the non-university training colleges, a few hundred may have taken a two-year course in a university department, and about 2000 are trained university graduates. The last section for the most part will teach pupils above the age of 12, often in the secondary schools, where they may be replacing untrained graduates rather than certificated teachers. The other sections will teach almost entirely in schools which are classed as elementary, and most of their pupils, though not all, will be under 12 years old.

There would be no practical danger, though perhaps some optimism, if educational reformers merely wished to look forward to a time when the university contribution, of graduates trained to teach and well fitted to teach, might increase not merely threefold

but fourfold or fivefold. Only thus will it suffice to supply the secondary schools, to keep up the original certificated supply in the elementary, and to add enough to replace the uncertificated by the better qualified, and finally to meet the need for smaller classes which we all admit. (We must remember that these numbers have to be drawn from only two faculties within the universities, those of Arts and Pure Science—the medicals and the technologists, except for a few craftsmen, will not supply us.) If we wait in hope, no harm need be done, and no one can deny that in time there may be fulfilment. Yet I cannot help doubting whether this is really a common-sense desire. We cannot remind ourselves too often that most of the pupils concerned will always be under 12, and that most of these will be under 9, and that most of these again will be under 7. In seeking teachers who will be happy and successful in such work, intellectual ability can never be the only quality we ask for. Survey the generation that is leaving school at 16 or 17 or 18 this year, to supply, at once or later on, all the professions of the country. Without starving the other occupations, we have to provide this year's recruitment for educating all the nation's children. Is it not common sense to believe that we cannot provide it wholly from the highest levels of mental ability, lying within the range with which the universities clearly ought to deal? The school-leavers on this level who have the other gifts and interests required are simply not numerous enough to staff this great section of the teaching profession. We are bound, surely, to draw largely from other levels.

and if the other gifts and interests are there we may draw recruits who are well worth while

The danger begins, however, when this need is admitted. It is granted, at any rate for argument's sake, that we have a body of future teachers not to be despised, who yet are not intellectually suitable for the work of a university and would not on their own account be advised to seek entrance there. At present it is the two-year training colleges and the Froebel colleges that are charged with preparing them : colleges that can give attention to this with a single mind. The reformers I dispute with are those who would abolish this arrangement, or confine it to a single finishing year, for the sake of passing these students through some university course.

What will the university do with them ? When all useful variety of subjects has been introduced, there will still remain the hard fact that the level of education, designed for a different calibre, is not the level which these require or to which they can respond. We are adding to the number of those who drag through, uneducated, at the bottom of a class, or of those who fail. On the other hand the case is no better if we design for them a simpler and perhaps a shorter curriculum (let us call it, for convenience, a T curriculum). A university has enough to do already if it is to care properly for students taking the ordinary degree as well as for those who are taking honours ; and to undertake a third level is to invite failure. Not only in class-room and private study but in general college life these students, through no fault of their own, will be starved of what college days should give.

IMPORTANCE OF THE NON-UNIVERSITY COLLEGE

I do not speak without experience, having taught such young people in two universities and also in a college of their own. The arguments could go into endless detail, but I will sum them up briefly under three heads (1) The T section will never get the best that a university staff has to give. However conscientious the lecturer, I venture to say he cannot normally help feeling that this part of his work is a drag on the rest. I felt this for myself, unwillingly, in both universities. I know that I set essays in this section with reluctance and corrected them with impatience. But when, through eight intervening years, I taught in a non-university college, all this impatience disappeared. I could give my full attention, and I am sure that my classes got much more from my teaching. A university lecturer, by the way, is not always found to teach over the heads of his T class. It is even more likely that he will underestimate their real intelligence and underwork it. (2) The T student within a university is certainly apt to underwork his own intelligence. Having constantly before him a more ambitious path which he has not chosen or from which he is excluded. His is not the serious work of the university, and he need not attack it seriously. The worthy intellectual ambitions and scholarly spirit that may be aroused in such a student in a college of his equals were a revelation to me. (3) Finally, outside their work, it is from a community of equals that university students gain the precious things of their college life. They are equals, and potential leaders. They come up ready to look

up to those who are there before them, but ready also to succeed them when the time arrives: to succeed them in argument, in government, in responsibility and counsel. In a compressed form, the two-year course in a two-year resident college can provide all this stimulus and growth; the T course in a university cannot provide it. Upon this argument, briefly as I have stated it, I would lay the greatest stress of all.

It is conceivable that we may decide some day against retaining the two-year colleges for men. Fewer men than women, no doubt, are needed for taking charge of the children under 12, and it may be that we shall be able to draw such numbers as are necessary from amongst those who not only have the interest and temperament and the other gifts required, but also can genuinely profit by working for university degrees. With women, of whom we shall always need so many, I doubt whether we shall ever be able to follow that principle without a wasteful limiting and impoverishing of our field, but we may leave it to the future to decide. The only plan that I oppose is that which would abolish or mutilate the non-university college while we still are drawing the recruits who need it.

To return finally to the larger question. The movement against the teachers' colleges seems to derive, to a considerable extent, from a general impression that the non-university college is an exception and an anomaly. But the fact is that the volume of education outside the universities is already much greater than the university volume,

and my thesis is that, as both volumes increase, this excess will, and should, go on increasing. We shall no doubt continue, very rightly, to widen the field of university study to fit still more interests and still more vocations, but besides this we must organize and improve all that is available outside. We go into a blind alley if we press the universities to do what they cannot do well, in the belief that there is no other way of having it done well. Certainly we shall use the universities. We can extend the devising of elastic connections which bring advice and intercourse whilst allowing the non-university college to keep its independent life. We can draw staff and governors from university sources even more than we already do. If the handicap of a specialized institution is outweighing its advantages, the field is open for experiments in combination; in that respect, as in matters of freedom and self-government for students and leisure and stimulus for staff, we have the university tradition to learn from and to improve. Our non-university houses of youth, no less than the older sort, may be open to light and air on every side. Two generations ago Matthew Arnold told us to organize our secondary education, and we have done so. The time has come to reap the fruit of this, recognizing gladly what has long been true, that education and training after secondary school days are asked for, not only by such young men and women as can profitably pass through the universities, but by many more. We have now so to arrange and increase and improve our non-university provision that every group may find a place of full and

happy activity, comradeship, and learning ; a place of their own, as university students have a place of their own. The enterprise is incumbent on us not only inasmuch as young people differ but inasmuch as they are the same.

CHAPTER VII

EDUCATING MEN AND WOMEN

THE modern Adult Education Movement has been described as a river fed by tributaries from the social movements of the early nineteenth century. Interesting though it would be to trace those tributaries to their source, and important as that is, if one is to estimate the significance of the Adult Education Movement to-day, I must regretfully leave my reader to make the journey into the past with such guidance as he may obtain from the *Final Report (1919) of the Ministry of Reconstruction Adult Education Committee*,¹ *The Story of the W E A*, by Mr T. W. Price, B Litt, *An Adventure in Working-Class Education*, by Dr Albert Mansbridge, and *Cambridge Essays on Adult Education*.

I can only say, if I am to leave sufficient space in this article to deal with its modern aspects, that Adult Education has a history which is of absorbing interest. Many outstanding personalities of the nineteenth century were trying to express in inarticulate language what Mansbridge expressed with more clarity when he founded the Workers' Educational Association in 1903, but if Francis Place,

¹ Chap 1, "The History of Adult Education"

William Lovitt, Ruskin, Kingsley, and F. D. Maurice, to mention only a few, were alive to-day they could rightly claim that while Mansbridge built the edifice they were among those who laid the foundations. An even more direct contribution could be claimed by the pioneers of the Trade Union, the Co-operative, and the Working Men's Club movements. Mansbridge's genius lay in discovering the bridge between "Labour and Learning", to use his own phrase. He had learned from his personal contact with the Co-operative Movement that "labour was in no mood to be blind", and thought that the University Extension Movement initiated by the University of Cambridge in 1872 might be used as one vehicle to provide "higher education" for working-class audiences, while, at the same time, it would bring scholarship in contact with the fundamental realities of working-class life.

Though this co-educative effort to secure the contact between scholarship and experience was a significant step forward, and has always remained one of the fundamental objects of the W.E.A., it could not of itself have established the relationship between the organized working-class movements, represented by the W.E.A., and the universities, which has since become the envy of organizations interested in Adult Education all over the world. The experience of the first four years revealed that while working-class movements were anxious to take advantage of university culture they were not prepared to have this "imposed from above". If there was to be a partnership between Labour and Learning it must be an equal partnership. The

tutors must be selected not alone on grounds of scholarship, but must also have knowledge of and sympathy with working-class life and the choice of tutor must be determined by the students themselves. This principle was recognized at a conference of representatives of the W E A and Oxford University in 1907 by the setting up of the first Joint Committee for Tutorial Classes, consisting of an equal number of workers and academic members, and on October 27th, 1908, a statute was promulgated in Congregation giving power to the extension delegacy to set up such a committee. The precedent being established by Oxford, similar Joint Tutorial Class Committees followed in other universities. It will be recognized that University Extension Lectures had played some considerable part in stimulating educational interest, but audiences of 200 to 600 were not conducive to intimate contact between lecturer and student nor suitable channels for discussion on problems of a social and economic character, and it was in these that the workers were primarily interested. That is why the demand for equal control in administration of the work and the demand for classes rather than public lectures synchronized.

The first *Tutorial Class* was organized at Rochdale in December 1907 and taken by Professor R H Tawney, who had just been appointed a full-time lecturer for this kind of work under Oxford and who has since given yeoman service to Adult Education and working-class movements. The Tutorial Class differed from the Extension Lecture Course in that it was organized on the basis of a

three years' course, it consisted of not more than 32 students, latterly 24. No student was entitled to be entered on the register unless he pledged himself to attend not less than two-thirds of the meetings which extended over twenty-four weeks in each of the three years, and unless he undertook to do written work and reading to satisfy the tutor. Each meeting must last two hours and at least half the time must be given up to discussion

It is not surprising that with a standard of educational work so exacting, the growth of the tutorial classes should have been painfully slow. The material out of which they were to be organized was of that generation which, if it had been to school at all, had in most cases had no better opportunities than those provided by the Church schools prior to the beginning of the elementary education system by the Balfour Act of 1902. The growth was steady, but slow—155 tutorial classes in 1914 with 3110 students and 882 classes in 1938 with 14,402 students

While the tutorial class still holds first place for high standard of educational effort and quality of work, it must of necessity, limit its appeal to students prepared to discipline themselves to serious study over a protracted period

The pioneers of the Tutorial Class Movement recognized that the majority of working-class men and women had neither the educational enthusiasm nor the background to undertake such a strenuous ordeal. Indeed, one of the most notable traditions of Adult Education in this country has been the recognition that educational enthusiasm must be

stimulated and the Workers' Educational Association had to improvise stages of educational development which would, for some students, be an end in themselves and for others the natural transition to the tutorial class

In the earlier years, the introductory courses took the form of study circles voluntarily led by tutors devoted to the ideals for which the Movement stood. Later, some local education authorities were willing to admit the claim of the W.E.A. for recognition of such groups as classes and make grants for maintenance under their evening school regulations. In 1924, the Board of Education, convinced that there was a genuine demand for adult education of a less exacting character than the tutorial class, issued revised regulations, recognizing for direct-grant aid one-year classes of 20 to 24 meetings, and terminal courses of not less than 12 meetings, and approving as responsible bodies a limited number of voluntary associations, the chief of which was the W.E.A. A one-year class under these regulations differed from the one-year classes organized under the L.E.A. regulations for further education, in that written work on the part of students was compulsory, while for classes under regulations for further education and terminal courses this requirement was not obligatory. It might have been assumed that direct recognition of pioneer work by the Board of Education would stimulate this type of activity at the expense of the more exacting tutorial class work. On the contrary, the action of the Board stimulated both types, the one-year classes and terminal courses acting as

EDUCATING FOR DEMOCRACY

feeders for tutorial classes. The growth of the demand was phenomenal in the first few years after 1934, but became steadier after the industrial difficulties from 1929 onwards, as the following figures show :

Year	Grant Earning Classes	Students
1923	933*	22,748*
1924	1098*	26,874*
1929	2077	38,960
1934	2626	53,385
1937	3046	58,213

* Includes voluntary study circles which, at that period, were not separated from the general statistics

It is opportune to point out at this stage that I am dealing here only with the development of non-vocational Adult Education. There are other branches of the Adult Education Movement which have developed as the young sapling has grown to a sturdy tree, and these will receive such attention as they merit in the limited space available. What I am concerned with, mainly, is that aspect of Adult Education which has from its inception related itself to the social and political responsibilities of men and women in the community in which they live, and where the main motive attracting them to study has been to gain equipment for service to the community in general and to the organizations in which they were interested in particular.

The test of the success or failure of the traditional Adult Education Movement as represented by the W.E.A. is the extent to which its students have exercised a vitalizing influence on public opinion.

EDUCATING MEN AND WOMEN

There may be as much shop-window display of education as of any other social service, but in the end the real evidence must be produced in the quality of the display rather than in the quantity. The W.E.A. has provided classes for just over thirty years. To what extent have its students contributed to social progress? It would need a volume in itself merely to quote the names and the public offices manned by the W.E.A. students who owe their capacity for such service to the W.E.A. I must content myself with a brief quotation from only one of the eighteen districts of the W.E.A.—the Yorkshire North area—which prepared a record in 1935 of the number of past and present W.E.A. students serving on public bodies. The list was limited to those who were serving at the time. The inquiry did not pretend to be complete, but so far as it went it revealed the following facts:

Members of Parliament	3
Members of Local or County Councils	257
Magistrates	32
Education Committees (co-opted)	16
Other local committees (such as Un- employed Assistance, Courts of Referees, School Managers or Governors, Mental and Child Welfare)	52*

* This does not include the members of local committees who were also Councillors

Had the list been extended to include district and branch secretaries of working-class organizations and various other positions of voluntary service on which the working-class movement depends, it would have been even more convincing.

It is true that within the framework of humanistic study Adult Education, judged in terms of numbers, still provides for an infinitesimal number of the great whole of the working-class community. In its most successful year the W E A and the universities together have never provided for more than 64,000 students, but if one thinks of this as a service to potential leadership and recognizes that year after year the personnel changes, then it will be appreciated that hundreds of thousands of men and women have been influenced, and in turn have influenced the much larger majority who are content to be led rather than to lead

As might be anticipated, a movement which emphasizes the importance of the political education of the citizen and believes that it is a sound investment for the State to accept financial responsibility for such teaching, has to meet criticism from both left and right. It finds it difficult to convince the right that political education can be provided in an atmosphere free from party bias, and it is still more difficult to convince the left that unless it is free from party bias it is not education at all, but propaganda.

The criticism of the right need not be taken seriously, because it arises from the lack of objectivity and freedom from bias in its own education, the criticism from the left is more germane, because it actually places no value on education unless it is frankly propagandist. This theory has been accepted by a large section of the organized working-class movement and finds its expression in the National Council of Labour Colleges, a body which undertakes educational work "from the workers'

point of view " for some of the largest trade unions ; work which, in the main, consists of correspondence courses and a relatively small number of short-course classes The National Council of Labour Colleges propounds the theory, in season and out of season, that university education is " boss class " and that no working-class body can accept grants for teaching from the State without succumbing to the influence and control of the governing and " capitalist class ".

It will be recognized that these specious theories find fruitful seed for growth in ground which bases its political faith on prejudice and emotion rather than factual investigation, and it says much for the sanity of the organized Trade Union Movement generally that it has not been stampeded by this invitation to intensify the class war rather than its own education. It is unfortunate, but true, that the intervention of the N C.L. C. has led to a ferment in rival philosophies which is in danger of taking up much of the time that should be devoted to educational work itself.

In spite of this, twenty-five trade unions set aside between £6000 and £7000 per annum and use the educational machinery of the Workers' Educational Association for the provision of classes for their members and for correspondence courses, scholarships to week-end and summer schools, and to a summer school organized by the W E A at the International Labour Office, Geneva, each year. Some of the Unions and the Trades Union Congress also provide scholarships to Ruskin College and assist, financially, their members who obtain univer-

sity scholarships and scholarships to Residential Colleges generally. This trade union educational activity is controlled by a body known as the Workers' Educational Trade Union Committee—formed in 1919—for which the W.E.A. undertakes the administrative and educational work.

The Co-operative Movement has its own Educational College and undertakes, through its educational committees, most of the educational work of a technical and commercial character, and classes of special interest to the Co-operative Movement itself. It co-operates with the W.E.A. for the provision of tutorial and other classes which the W.E.A. is better able to provide.

It is doubtful if the more formal type of Adult Education could have expanded more rapidly than has been the case even had there been a more vigorous demand. The character of the work and the specialist type of tutor required made the question of supply a restrictive factor. In the early days the universities provided most of the tutors, but as the demand has grown it has been necessary for University Joint Committees to appoint tutors who could devote themselves entirely to Adult Educational work. Such tutors were particularly essential for rural work where, owing to transport difficulties, the tutor of a class was almost certain to have to stay overnight. Here, again, the W.E.A. was the pioneer body. Twenty years ago it appointed full-time tutors in the rural areas of the East Riding of Yorkshire by the aid of grants from trust funds, and from 1927 to 1933 it had organized Rural Schemes in eight rural counties and appointed a full-time

tutor in each case, assisted by a grant from the Carnegie Trust. As is so often the case, the successful experiment of the voluntary body paved the way for official recognition, and when the W E A. suggested that the Board of Education should recognize the appointment of such tutors as essential for development of Adult Education in rural areas on a block grant salary basis rather than a grant per class, the Board was sympathetic, and to day University Joint Tutorial Class Committees may appoint two, and in exceptional cases three, such tutors. At the present time there are about thirty tutors appointed under this special regulation of the Board, in addition to some thirty-five staff tutors also appointed by University Joint Committees on a full-time basis. Many of the tutors in both categories are ex-tutorial class students of the W.E A. who have been awarded scholarships, and, after some three years' study at a university, have taken a degree. The Residential Colleges also work in close co-operation with the W E A., and some of the tutors undertaking pioneer classes are former W E A. students who have had the advantage of a year or two years' course at a Residential College.

So much for what has been termed the intensive side of Adult Education. If I have emphasized the special contribution which the W E A. has rendered to Adult Education it is only because that body took the initiative. There are, of course, many aspects of Adult Education for which a voluntary body could create a demand but which it could not properly supply, and it appears to be fashionable to suggest that the growth of the

Movement is considerably retarded by "a lack of co-ordination" Adult Education started as an experiment It has retained its life and vigour because the demand and control came in an upward curve from the bottom and was not imposed by a downward curve from the top In its recent development it has been strengthened and not weakened by the variety of facilities available and the differing character of the appeal. I can imagine nothing more deadening than any attempt to blend incompatibilities, however excellent they may be in their own way, by any system of co-ordination. It is true that local education authorities are in some cases adopting wide and extensive schemes of Adult Education That is all to the good The W.E.A. should be given credit for setting the example to some authorities and converting others.

There need not be overlapping between the work of a voluntary educational movement and a local education authority unless the voluntary movement is engaged in activities which could be better performed by the statutory body or unless the statutory body fails to appreciate the social significance of self-government in Adult Education. In the main, the voluntary body relies upon its appeal to a *group*, already organized for some other purpose, *i.e.* trade union branches and other branches of the working-class movement which desire to maintain the autonomy and unity of the group and to have a democratic student movement to represent their demands The L.E.A. has a wider but more individual appeal, and it must concern itself mainly with the vocational and technical aspects In Adult Educational work

the motive which has stimulated the approach may be an important clue to deciding whether the work is vocational or non-vocational. Thus, a class of teachers studying Biology, or a class of bank clerks studying that aspect of Economics known as Finance and Banking, would probably be purely vocational, while similar subjects taken by a group of manual workers would obviously be non-vocational and a liberal education in the widest sense.

I prefer to believe that the work of voluntary providing bodies and L E A.'s in the field of Adult Education is complementary to each, and that both the approach, the personnel, and the general objectives are amenable to co-operation but not to co-ordination. This view seems to be shared by the Adult Education Consultative Committee of the Board of Education which, after co-operating with L E A.'s in a survey of Adult Educational provision issued a report on *Adult Education and the Local Authority*, stating "The view sometimes expressed, therefore, that the work of such bodies (voluntary organisations) represents a passing phase in the history of the movement, which was necessary in its infancy while voluntary effort was necessary to claim new territory for education, but which is destined to be superseded as classes administered by Local Education Authorities are more extensively established seems to us to be a superficial one." This was simply a confirmation of the words in the historic report of the Ministry of Reconstruction Committee of 1919, which said "The volume of educational activity is determined not by the capacity of the Universities and Education Authorities to

provide facilities but by the ability of the Organizing bodies to give shape and substance to the demand ”.

The work of a Movement like the W E.A. can never be a mass movement. If the educational value of its work is to remain at a high standard it must remain independent of the purely vocational or the semi-recreational approach. It can afford to welcome, to co-operate with, and to help the newer agencies such as those of Broadcasting and the Cinema. It should co-operate with L E.A's in stimulating the demand for the normal provision of the Evening Institutes, and it must continue its task of “leavening the whole lump” by its special provision for those who seek knowledge not for gain but for social service.

If one could present a picture of the work of every organization in the field of Adult Education, and one could view the picture as a complete whole, it would leave one with the impression that the task had only just began.

Colin Clark informs us that the 1921 British Census showed 18,419,000 occupied persons, excluding employers and those earning over £250 per annum. If we take that as the prospective audience for Adult Education it is a modest estimate of our task. What have we done? According to the Board of Education Report, 1936, in the whole of the Evening Institutes, Day Continuation Schools, Evening Technical Schools, Adult Education Classes, and every form of what we would claim to be “further education” there were less than 2½ million students. Of these less than 600,000 were under 20 years of age, while the insured population

under 20 years of age was 3,286,000. In other words only one adolescent in five was "following up his education" Of the 2½ million who *were* interested 77·3 per cent were following technical subjects, including physical training, so that the proportion interested in cultural subjects, and particularly the social sciences, was infinitesimal These are rough estimates, but they are sufficient to show the extent of the work ahead and the need for redoubled energy on the part of all organizations engaged in the work

One cannot overlook the importance of educational reform as well as educational propaganda If the adult is to be interested in humanistic study, the foundation must be laid in the school An educational system which each year throws half a million children on an overstocked labour market at 14 years of age has left off where liberal education should have begun If, in a more enlightened generation, we insist that every child capable of benefiting by it shall have a liberal education from eleven plus, as recommended by the Hadow Report, and shall remain at school until at least 16 years of age, we shall have commenced a new era, not only in the life of the child, but in the life of the nation. Adult Education will receive an impetus from the type of student who considers the adult class a natural transition from school life It is not a question of boosting numbers. It is more fundamental it is a question of raising up a generation which will safeguard for all time democratic freedom and liberty, for that is the task of Adult Education, as the W E A sees it

CHAPTER VIII

THE SCHOOL AND THE FOUNDATIONS OF HEALTH

THIS book is concerned in the main with the planning of education in such a manner as to lead to the realization of a fully developed modern democratic State. But the idea of a democratic State and the extent of the educational planning designed to secure and establish it has no relevance apart from the individual towards the full development of whose life the State and its educational planning are there to minister. The State, in a democratic sense, is the Community writ large. It is made up of numerous communities, the size of each dependent, in the main, upon the functions to be performed. The smallest community to which the individual belongs is the family. He is attached in ever-widening circles first to the purely local communities, whether for children, adolescents, or adults, embracing the school, the local social, political, and religious organizations, including recreational and other clubs, the public-house, the church or chapel, the trade union, the women's institute. Then to the more remote; till the attachment furthest from his centre—the State, is reached

Now the function of the democratic State is to secure the full development of each of its component individuals within the setting of these diverse communities. Its primary function is with the health of the individual, and, though the physical and mental health are inseparable, it is with the physical health that this chapter is in the main concerned. The fullest life is that in which the physical and mental potential capacities of the individual are both developed to their highest. It is true that we may not know what that highest is. In the case of physical health there are no well-established objective standards of what constitutes the optimum, while there is room for much dispute as to what constitutes full mental health for a given individual, so discordant may be the judgment of values. How far each individual attains to the quality of wholeness in adult life will depend very largely upon the degree to which he attains wholeness through childhood and adolescence.

It is with the great developmental period that we are concerned, extending from birth up to approximately 18 years. Here, up to the present but imperfectly recognized, is an unbroken biological process, the unfolding of that which is given by heredity. We divide the period for the sake of convenience into stages. Because we have failed to appreciate their biological significance and have thought of the child in part and not in whole, we have fashioned the environment to suit partial ends. Until recently we have not considered the whole child at any stage, while the attention we have paid to the child at the different

stages has been conspicuously uneven. The concern shown by the community during the past three decades for the child during the first year of life has saved the lives of countless children and ensured for countless others a fullness of baby life. Over two generations ago the State took upon itself, through the medium of the Education Act of 1870, a measure of responsibility for children, from the age of 5 years, for some six and seven years at first and later for a longer period. It was concerned almost entirely with the instruction of the child. Concern with the physical condition of the child at school has only slowly developed but with greatly increased momentum during the last two decades. But an understanding of the biological significance of development between the ages of 2 and 5 years and during adolescence between the ages of 14 and 18, is only now beginning to be grasped. There can be no satisfactory educational planning for a modern democratic State until first, on the physical plane, the gaps are made good in this broken arc.

We are necessarily concerned in this place, in the main, with the physical development of the child within the school environment; with the contribution that the school can make towards securing the full health of the child. But it will be understood that the adaptation of this particular environment cannot of itself suffice to secure full harmonious biological development. The child's life in the home, in out-of-home and out-of-school activities, and later in industry, also plays a dominating part. The influence of the school itself

THE SCHOOL AND THE FOUNDATIONS OF HEALTH

is necessarily limited compared with the other influences brought to bear on the child, and in order to make its own work effective and in order to secure that the wealth accrued to the child in terms of health is not later frittered away it becomes necessary, accordingly, for the school to take the initiative towards securing that what Dr. Jacks has called the episodic life of the child should become a more harmonious whole

THE DEVELOPMENT OF THE SCHOOL MEDICAL SERVICE

We must now trace briefly the steps which the school has taken to provide the foundations of health during the school life of the child. Until the initiation of the school medical service as the result of the passing of the Administrative Provisions Act, 1907, there was little planned regard for the health of the school child, apart from the action taken by a few local education authorities here and there in the country. As the result of systematic medical inspection of children carried out in every public elementary school, urban and rural, an immense amount of disease and defect was brought to light among children of all ages. The physical condition of many children was found to be seriously impaired, and, through general ill-health and more specific disease and defect, these children were unable to benefit properly from the education they received. Not only was there widespread and unnecessary suffering but great wastage of educational effort. Indeed not

uncommonly the education the child received tended to aggravate the poor physical condition under which the child was suffering. Under these circumstances it was inevitable that the main trend of the school medical service should be directed towards the cure and relief of these disabling conditions. The outstanding need was for treatment of disease and defect, and clinics with this end in view sprang up all over the country. They were in the first instance devoted, in the main, to the treatment of diseases of the skin and scalp—for the most part the result of uncleanness—of ringworm, of defects of eyesight and external disease of the eye, of deafness and “running” ears, of adenoids and chronic tonsillitis, of dental decay and defect. As a result of this and similar provision the schools were cleared of children suffering from disease in its gross and readily curable forms. Nevertheless an immense amount of disability was left.

Year by year since 1908 the school medical officer of each of the over three hundred local education authorities has issued a report setting out, often in much detail, the state of health of the school children in his area. Year by year also the Chief Medical Officer of the Board of Education has studied each one of these individual reports and has presented in his Annual Report a summary of these various findings and has dealt each year with one or another aspect of the many forms of disease and defect found among school children. These are now within the common knowledge of those concerned with the upbringing and education

of children and need not here receive detailed attention

Reference, however, should be made to the road modern medicine is taking towards the prevention of disease and defect through the early treatment of the beginnings of disease. Prevention has two aspects. There are the more general measures directed towards the prevention of the onset and development of disease such as are associated with the steps taken to prevent, for example, smallpox and typhoid fever. But the prevention of well-established disease takes on the form of treatment—the treatment of disease in its earlier stages. The prevention of serious crippling disease, through prompt and suitable treatment in the early beginnings, finds in the school medical service many striking illustrations. In its simplest form it is best illustrated by the practice of the school dental service, which from its first initiation has dealt primarily with children on their admission to school at the age of 5 or thereabouts. In its more elaborate functioning this form of prevention is well seen in the prevention of crippling due to rickets, tuberculosis, infantile palsy, and other diseases, and in the prevention of rheumatic heart disease. Prevention in this sense is to-day the main concern of the school medical service and enlisted in the service is a staff of 1458 whole- or part-time school medical officers, of 1027 specialists, mostly part time, in different branches of medicine and surgery, of 907 whole- or part-time dental officers, and of 6014 nurses, of whom 2281 are district nurses not employed directly by the local authority.

But there is a third stage in the development of the school medical service. In this stage emphasis is laid on health and its maintenance rather than on disease and its treatment. This principle has been in operation since the earliest days of the service but to-day it is becoming recognized that in this direction lies the main function of the service. Its implications go deep, and, both directly and indirectly, the developments required to secure full health and its maintenance during the developmental period at all stages of the education of the child and adolescent, are far reaching and extensive. In a word, the primary concern of the school medical service has passed from the consideration of defect and disease to that of the health requirements of the whole child. The work and purpose of the teacher has been passing through a similar development. His primary concern has passed from that of the teaching of "subjects" to the education of the whole child. The many implications of this need not be followed out here, but the two movements are intimately related and bring the doctor and the teacher into ever closer association. Formerly each stood alone. The teacher employed in subject-teaching was self-sufficient. He developed his technique with little necessary reference to anybody else for help in his task. The doctor, too, in the detection and treatment of defect and disease, was similarly self-sufficient. In the process of passing whether from subject to whole child or from defect and disease to whole child, the teacher and doctor, while both remaining, each in his

sphere, in the centre of the picture, have found the need for an ever-widening circle of contacts. Health and its maintenance can be secured only by team-work. Neither doctor nor teacher can attain their ends except through co-operation, not only with each other, but with the other persons entering into the environment of the child—at home, at school, in social and community life, in industry; so numerous are the places where the teacher and the doctor, health and education, meet.

THE NUTRITION OF THE CHILD

When the child is examined by the doctor on admission to school it is unfortunate that the departure from full health most important to recognize, namely, faulty nutrition of the child, should also be the condition the most difficult of assessment and measurement. Nutrition, as McCarrison¹ has pointed out, should be looked upon as a process rather than as an end attained, "the series of co-ordinated processes whereby the nourishment of the body is effected." Nutrition is therefore less a "condition of body than a function of the body on which condition of body—health—depends. . . ." However, the term malnutrition is commonly used for a condition of the body due to wrong functioning of the mechanism of nutrition. Malnutrition is most commonly caused primarily by insufficient and improper food, though usually associated in greater or less degree with other causes, which indeed, and in their turn, may provide

¹ The Cantor Lectures, 1936

the sole factors Cathcart¹ reminds us that the Greeks distinguished between *Eusitia*—the condition of being “well-fed”—and *Eutrophia*—the condition of being well-nourished”. “Unless a child is “well-fed” it cannot be “well-nourished”, but to be “well-nourished” it is not enough to be “well-fed”. The process of nutrition depends, in the main, upon the right functioning of (a) the alimentary tract, (b) the cells of the body, (c) the organs of excretion. And this right functioning is again associated with and dependent upon deep breathing and the proper functioning of the lungs, the free circulation of the blood, the supply of the body with sufficient water. Lack of fresh air and sunshine, insufficient exercise or rest, uncleanness, may all contribute, through interfering with the co-ordinated processes of nutrition, to render the body ill-nourished rather than well-nourished. Nevertheless the fact remains that the most important factor of all is the character of the food supplied to the body.

If the factors interfering with the processes of nutrition are manifold and difficult to determine and unravel, perhaps still more difficult is the estimation of the result of these co-ordinated processes. One might suppose it would be quite easy to determine when a child was well-nourished or ill-nourished, as the case might be. At each end of a scale there will usually, but by no means always, be agreement among observers whatever the methods of assessment used. But, broadly speaking, there is not, and at present cannot be, common agreement as to the nourishment of the

¹ *British Medical Journal*, February 27th, 1937.

child, because there is lacking agreement upon the factors which might be taken as forming a basis for assessment. It must be kept in mind, too, that any method adopted to estimate the state of nutrition among children generally must be a method simple and rapid in application. It is not a question of examining a particular child brought as a patient where detailed investigation is necessary in order to determine the causation of disease or some particular line of treatment. The method must be applicable to the examination of all the children in a school within a reasonably short period in order to ascertain which children either require treatment of some specific defect and disease or for whom a further more-detailed examination is required. For this purpose of routine examination there is, in practice, one method of measurement only which can be entertained. It is customary at the "routine" examination of children to take the height and weight, and a customary method of judging the nutrition of the child is upon the relationship found to obtain between these two important factors of growth in their relation to the age of the child. As an illustration of the use made of these measurements may be given the classification as used on an extensive scale by Dr. W R P Emerson. He would classify as *overweight*, 20 per cent above the average weight for height, as *optimum zone*, from the average weight to 20 per cent above, as *border-line zone*, from average weight to 7 per cent below, as *danger zone*, any weight more than 7 per cent under average. Experience, however, has shown that,

useful in many ways though such a classification may be, as, for example, in the selecting of children for further examination, in comparing the nutrition of groups of children living under different social and other conditions, in gauging the progress of a particular child, the results obtained are, for various reasons, unreliable for the purposes of estimating the clinical condition summed up in the term nutrition. Full discussions of this aspect of health, as indeed of all aspects of the health of children, will be found in recent annual reports of the Chief Medical Officer of the Board of Education. Here the conclusion is reached that the record of the nutrition of the child should be based on the general findings of the result of the medical inspection of the child when a variety of factors, in addition to those of height and weight, will enter into the estimate, including: "the general appearance, facies, carriage, posture, the condition of the mucous membranes, the tone and functioning of the muscular system, and the amount of subcutaneous fat". Using this clinical examination and record, all school medical officers assess the nutrition of children under the headings of "excellent", "normal", "slightly subnormal" and "bad". The returns for the year 1936 show that of 1,726,755 children examined at the prescribed age-groups, 14.6 per cent were returned as "excellent", 74.1 per cent as "normal", 10.6 per cent as "slightly subnormal", and 0.7 per cent as "bad". These massed statistics are valuable but they probably do not tell the whole story. The standard of the examiner tends to be influenced by the stratum of

society to which the children examined generally belong. Many children classified, for example, as "normal" and who on that account would pass as satisfactory would, under improved conditions of feeding, as experiments in feeding indicate, and under more favourable hygienic conditions generally, reach a higher plane of physical well-being. In any event, the use of the term "normal" for purposes of classification is open to considerable objection.

What is assessed by the doctor as the result of the clinical examination indicated would perhaps be better described as the general physical condition of the child rather than his state of nutrition. Looked at from this standpoint there can be no doubt as to the advantage of supplementing clinical observation by methods of measurement. In addition to those of height and weight these would include chest measurement in repose and upon extreme inspiration and expiration, the estimation of the haemoglobin content of the blood, the results of various physiological tests. The more that these component parts can be measured the surer will be the picture obtained of the general physical condition of the child. Where this fails to come up to the highest to which the child seems capable of attaining, attention should then be directed to the particular component part or parts which are failing to make their proper contribution to the whole.

HEALTH AND ITS MAINTENANCE : MEALS AT SCHOOL

As one views the school medical service in action to-day there is seen then an organization which

enables the doctor, to some extent by the relatively full routine examination at stated intervals and by other special examinations of every child in attendance at every public elementary school, to become cognizant of the physical condition of each child and to note the requirements of each child for treatment, whether general or specific. To meet these requirements there has been set up, in greater or less degree, by every local education authority a system of school clinics and a multiplicity of arrangements with the voluntary hospitals. A striking fall in the severity of defect and disease has resulted among children of all ages; there is, however, likely to be, for a long time to come, room for the development and perfection of these arrangements for treatment, whether by the general practitioner, the school medical officer, or by the specialist physician or surgeon.

But the urgent need to-day is for a fuller recognition of the aspect of prevention associated with the study of health and its maintenance. It is these foundations we must now consider. They are so well known and so freely talked about that it may be difficult to realize how far they are from finding expression in the case of the large majority of the schools of the country. The first question, then, that should be asked of a school should be, not what subjects does it teach and how does it teach them, we should ask rather whether—in the general character of the building and surroundings, its provision of accommodation and its planning, its equipment within and without, its facilities for meeting the child's physical and emotional needs as well as the more purely intellectual, its organization of the daily

life at school, its interpretation of the school curriculum, its contacts with the life of the child elsewhere than at school, whether in the home, in social life, in industry—it is making its full contribution towards the foundations of physical and mental health essential to ensuring the fullest possible return from the programme of instruction

It may well be agreed that the chief responsibility for the proper supply of food and meals for the child rests with the parent. But it has for long been recognized that in the case of many children it is a responsibility which the parent alone is quite unable to shoulder. Over thirty years ago Parliament, through the passing of the Education (Provision of Meals) Act, 1906, made possible the provision of meals by the local education authority for necessitous children. For some years past over 150,000 school children have been receiving free dinners at school each year, though lately the number has dropped. For several years past there has been a steady increase in the number of children supplied under the Act with free milk, the number reaching in 1936-37 over 450,000. It must, however, be noted, as commented on in the Annual Report of the Chief Medical Officer of the Board, that the proportion of children receiving free meals in any area bears little relation to the needs of the area either as suggested by the "index of employment" or by the returns of subnormal nutrition. Another point which must be made is that, from the point of view of sound nutrition, very many of the free meals provided are thoroughly unsatisfactory in quality even where suitable in quantity, and "in too many cases consist almost entirely of

the same type of food which the children are already receiving at home ". This means that a relatively small contribution is made to the better nourishment of the child

A further contribution which the school is making to the nutrition of children is represented by the Milk in Schools Scheme introduced in October 1934. All children in grant-earning schools can, under this scheme, buy one-third of a pint of milk for a half-penny. Approximately one-half of the children in public elementary schools benefit under this arrangement. The reports received show that there is much variation from area to area and school to school and that these variations have little relation to the prosperity or poverty of the district. Of the benefit following this greater consumption of milk there is considerable testimony. Unfortunately children who need the milk most do not necessarily receive it.

A brief survey of this kind of what the school is doing to ensure for the school child improvement in nutrition as the principal foundation of health is encouraging as far as it goes. The array of figures set out in official reports stating the total number of "solid meals" and "milk meals", running into many millions, is imposing. But there are not a few considerations which show, as is so often the case, that statistics may serve as a smoke-screen hiding essential facts. There is the fact of unsuitable meals to which reference has already been made. There is the limitation that only "necessitous" children (with very few exceptions) have been included. There is wide variation in the interpreta-

tion of what constitutes "necessity", whether judged by the condition of the nutrition of the child or by the state of the family income. Authorities have been encouraged to provide free meals for children on the recommendation only of the school medical officer, and, after allowing for all explanations, it is difficult to interpret this other than as an encouragement to feed only children showing already some degree of under-nourishment. Authorities have been discouraged to utilize income scales only. Nevertheless it might reasonably be argued that children, on the ground of insufficient income alone, should be provided with free meals in order to lessen the risk of under-nourishment supervening

From this brief discussion it seems clear that the school cannot exercise its full responsibility for the nutrition of the child upon the basis of medical inspection alone, nor of family income alone, nor indeed upon these jointly. Fortunately, recent work on nutrition and the food requirements of the body to ensure sound health have provided us with fresh material as a basis for action and have put another complexion upon the provision of meals at school. These facts concern: first, the quantity of food required, estimated in calories according to the age, sex, and other circumstances of the child, also the source, having regard to quality, from which these required calories should be derived, secondly, they indicate, through direct observation and record, and, on economic grounds, through the relationship between family income and minimum requirements, the deficiencies which have, in some way or other, to

be made good if the child is to be properly nourished

As is well known to-day, the most important constituents of a diet are the vitamins, and second to them the mineral salts. Where a minimum of all constituents is essential to health it may seem unreasonable to pick out any one constituent or group of constituents. But the outstanding new fact which has emerged is that a diet may satisfy every minimum requirement in regard to proteid, fat, and carbohydrate and yet be seriously deficient in vitamin content and to a less extent in mineral content. Much work has been done lately to measure, first by direct observation, inquiry, and experiment, the intake of food, quantitative and qualitative, of different sections of the population and secondly by comparing the amount of money spent on food with the amount actually needed if the minimum requirements referred to above are to be available. All generalizations, however, bearing on the cost of living, must be received with caution and especially when applied to any particular district. The cost of foodstuffs varies not only from season to season but also from district to district.

The investigation by Sir John Orr¹ included a classification of the whole population into six groups according to family income. An examination of family budgets provided an estimate of the amount of the various foodstuffs consumed by each of the groups. The next step was to ascertain the composition of the average diet of each group and to compare the amounts of each of the constituents with the amounts required for health. The estimated

¹ *Food, Health, and Income*, 1937

THE SCHOOL AND THE FOUNDATIONS OF HEALTH

average amount of money spent on food by each of the six groups is shown in the following table taken from the report

Group	Income per Head per Week	Estimated Average Expenditure on Food	Estimated Population of Group	
			Numbers	Percentage
I	Up to 10s	4s	4,500,000	10
II	10s to 15s	6s	9,000,000	20
III	15s to 20s	8s	9,000,000	20
IV	20s to 30s	10s	9,000,000	20
V	30s to 45s	12s	9,000,000	20
VI	Over 45s	14s	4,500,000	10
Average	30s	9s		

The main points which emerged from the inquiry having special bearing on the theme of this chapter are: (1) that "the average diet of the poorest group, comprising $4\frac{1}{2}$ million people, is, by the standard adopted, deficient in every constituent examined", that the average diet of the second group, comprising 9 million people, "is adequate in protein but deficient in all the vitamins and minerals concerned", that the average diet of the third group, comprising a further 9 million people, "is deficient in vitamins and minerals"; (2) "that as income increases, disease and death both decrease, children grow more quickly, adult stature is greater and general health and physique improve"; (3) that "improvement of the diet in the lower groups is accompanied by improvement in health and increased rate of growth which approximates to that of children in the higher income groups"

It is interesting to compare the relative consumption per week of Group I, the poorest in the community, with Group VI, the most affluent, in respect

EDUCATING FOR DEMOCRACY

of the most important articles of diet embracing particularly the vitamins and minerals.

It may be added that the consumption of cheese was greater in the higher groups while there was comparatively little variation as between the groups in the consumption of bread, flour, potatoes, and sugar. These were slightly lower in the lowest and the highest groups.

	Group I	Group VI
Milk	1 8 pints	5 5 pints
Butter	3 6 oz	10.5 oz
Meat	23 0 oz	44 0 oz
Fish	3 0 oz	13 3 oz
Eggs	1 5	4.5
Fruit	2½d nearly	1s 8d
Vegetables (excl potatoes)	2d nearly	8d

The investigations made by Dr Friend¹ over many years in his capacity of medical officer to Christ's Hospital School, Horsham, demonstrate how close is the connection between comparatively small alterations in diet and the health of children at school. The incidence of fractures owing to interference with calcium metabolism, when the diet was deficient in vitamins; the increase of septic conditions, boils, impetigo, and similar infections as the proportion of sugar rises in the diet; the indication afforded that attacks of rheumatism were fewer and less severe when the proportion of fat to carbohydrate in the diet was high; all point in this direction. On the positive side of health Dr Friend comments upon the importance of adequate intake

¹ *The Schoolboy His Nutrition and Development*, 1935

of vitamin B (complex), deficient in the diet of so many children. This has been maintained by the inclusion in the diet during the last twenty years of bread prepared from whole meal.

Whatever the line of approach, there can be no escaping the fact that the daily diet of a large proportion of the children attending our schools is insufficient in quantity, quality, or both, to maintain them in full health and vigour. In our endeavour to prove that the extent of under-nourishment among children is slight and that there is correspondingly small need for concern, we have adopted standards unwarrantably low. We have now a better conception of what physical standard the child is capable of attaining. It is the first business of educational planning to see to it that the fullest use is made of the environment, facilities and curriculum of the school to help each child to reach this optimum. We have already reviewed briefly what the school is doing towards this end through provision of free meals and milk and through the Milk in Schools Scheme. But this is not enough. What is required is a fresh conception, on the grounds both of health and education, of the place of the midday meal at school for all children as part of the normal school curriculum. There is, or ought to be, something much more in the feeding of the child than the provision of so much food, however right in quantity and quality. We desire that our children should be "well-nourished", not merely "well-fed". To ensure this, the actual consumption of the food should be recognized as the primary physical act from which the fullest benefit will accrue only in so far as it takes

place in a setting which the school is peculiarly able to supply. We have already learnt something of what this means through experience gained at open-air and other schools for special groups of children, and more recently at some of the newly erected senior schools, particularly in country districts. The meal becomes related, however unconsciously, to the life of the child. There is always some part which the child, at some time or other, can play in connection with the preparation, serving, and clearing away of the meal; in the washing-up afterwards and in the orderly disposal of utensils used, in the growing of vegetables and fruit in the school garden and of flowers to brighten the dining-tables. As a matter of course, the child will learn to be clean and smart in preparation for dinner. Facilities will naturally follow for all children who may need, or wish for, rest. Thus the midday interval between the morning and afternoon school session will be not the least important part of the educational day. As the opportunity is grasped, there will be a corresponding extension of the time available for the child's education. We would suggest then that, in the universal establishment of the school canteen as part of the educational plan of the modern school, there can be made an important contribution to the physical and educational life of the child. Not a little is involved in regard to the structure and equipment of most of the existing schools, but, as will be seen later, this is essential in other directions, as well as in the provision of meals for children, if the school is to play its full part in securing the foundations of health for its children.

FRESH AIR AND SUNLIGHT. CLEANLINESS

The physiological need of the body for, and its reaction to, fresh air and sunlight we need not here discuss. Their prime importance is now generally accepted, but they can in no way be considered as substitutes for proper feeding. Few new schools are built to-day where these two health-giving factors fail to receive full recognition. For this the normal child owes a debt, as in many other respects, to the abnormal. It was the planning and building of open-air schools for delicate children thirty years ago, following the provision of open-air sanatoria for the treatment of tuberculosis, that established, once and for all, the fundamental part played by fresh air and sunshine in relation to the health of children. Much, very much, remains to be done. The worst schools in this respect have been officially "black-listed" and not a little credit is taken for the diminishing numbers on this list. But once again the newly built school and these "black-listed" schools form a smoke-screen leading to complacency and hiding the fact that still the majority of schools in the country, alike in the big cities and in rural areas, fall far short of provision for this fundamental requirement for the health of children.

It is perhaps rather in the prevention of disease than in the maintenance of health that cleanliness is of importance. Many ailments of the body owe either their origin or their extent in part to lack of cleanliness, external or internal to the body. But here again the part played by poor nutrition has not

received sufficient recognition. Skin and mucous membranes if sound and adequately supplied with vitamin A prove very resistant to dirt. In the education of the body we must distinguish between an accidental and a chronic state of uncleanness. It is the prerogative of children to be dirty. Proper education of the body involves time and place for uncleanness and untidiness. So with cleanliness. The business of the school is to provide every facility for the child when dirty to become clean and to be trained in habits of cleanliness. As in the case of the other foundations of health with which this chapter deals, the school has often failed conspicuously in this. The lack of proper washing facilities, of a supply of hot water, of soap even, of towels other than a single roller towel, usually dirty and wet, is a not uncommon feature of many schools. In few ways is the practice of hygiene more neglected than in this. Yet the remedy is comparatively simple when once the educational value of cleanliness is understood. Unfortunately even in some new school buildings facilities are lacking for individual towels, brought from home by each child and returned there to be washed, or, failing this, provided by the school. Under these conditions each child would similarly be provided with its own hair-brush and comb. Provision of this sort is part of the ordinary equipment of every day open-air school. For children who come to school for the day such facilities will be taken for granted along with the midday meal and the period of rest.

EXERCISE AND REST

The recognition of the place which each of these must hold in the development of the child has been very slow—a result of our failure to understand that the education of the body should have priority over the education of the mind, and that the education of the mind is, in many aspects, dependent upon the education of the body, without which the education of the mind suffers a permanent and irreplaceable loss. We must give a wide connotation to exercise. Education of the body includes massive movement in which the whole body participates. This may be free and spontaneous or it may be more formal, more consciously directed towards an end. These are both an integral part of physical training. Games, sports, dancing, bathing, swimming and diving, boxing, and allied activities come under the first heading and physical exercises under the second. They are both essential forms of exercise for children and adolescents. Formal physical exercises have sometimes been disparaged. There has been in the past some justification for this. They have been mere drill, often unscientific, calculated to serve no useful purpose, actually in some cases doing harm rather than good. To-day they take their place in a system of physical training: they are adapted to the age and needs of the children. They are based on a sound physiological basis. They are no longer a performance the child goes through. The first condition is that the child enjoys the exercises. If he doesn't, it is assumed there is something wrong

with the exercises or the condition of the child. During the last thirty years an immense change has come over this branch of education. This experience has culminated in the remarkable series of publications published by the Board of Education during the past five years. That perfection has been reached, no one supposes. It is one thing to draw up a syllabus, another to get it applied. There are many schools of all types where practice lags woefully behind theory. There are still many children who, on account of their unsatisfactory general physical condition, cannot benefit properly from physical training. Much is claimed on behalf of physical training and it must be allowed that many children are but poor advertisements. This may be due to faulty application of the training, inadequate facilities, lack of capacity and training of the teacher, but it may also be due to poor physical condition of the child due to lack of other foundations of sound health.

The first outward and visible sign of good physical training should be good posture, good carriage of the body. This is, in fact, the acid test of the education of the body. "The ultimate criterion of the success of any scheme or system of physical training is the carriage, mobility, and equilibrium of the human body. If there is one test of the strength, tone, and balance of the body it is posture, for this depends on the co-ordination of the muscles acting in the skeleton. Good posture indicates health and soundness, bad posture the reverse."¹ This is surely in a measure true also of the health of the mind.

¹ Annual Report, Chief Medical Officer, Board of Education, p. 81

Character is a very subtle and complex thing, but posture is certainly related to character. There seems justification, indeed, for looking upon good posture as the physical basis for some of the highest qualities of character. We are a long way yet from either defining or measuring fitness. There is here a wide field for joint exploration on the part of the physiologist and psychologist.¹

How widespread is bad posture may be observed in most schools but it is especially marked, as a rule, in those situated in the poorer quarters of a town. Bad posture increases still further among adolescents after leaving school. As already indicated in the case of nutrition, so low are our standards that we do not recognize how far below the excellence obtainable is the general bearing and carriage of our children. "Average" becomes our "normal." "In many schools", to quote from the Board's Syllabus of Physical Training for Schools, "as many as 75 per cent of the children not only stand badly but have one or more of the minor deformities commonly associated with malposition. The child with the flat chest, round shoulders, poking head and prominent abdomen may be the rule rather than the exception and in such a case we often find some degree of spinal curvature, flat feet, or a reduced expansion of the base of the chest." If, as suggested, we look upon good posture as the test of good physical training, this would seem a severe criticism of the methods we adopt. But the physical trainer does not undertake to produce his results on any sort

¹ See Report of lecture by Dr. C. B. Heald, *Lancet*, February 24th, 1934.

of material which may be presented to him. Unless he does his job fully and properly we cannot expect good posture, but his efforts can only bear fruit if the other foundations of good health, especially good nutrition, sufficient rest and sleep, are forthcoming.

But the education of the body is not restricted to these more massive movements. Handicrafts, wood and metal work, gardening, domestic work, singing, creative manual work of all kinds, make their own peculiar contribution. These activities bind more directly the education of body and mind, but physical training, in its massive as well as in these more restricted applications, forms the essential foundation for full and balanced education of the mind.

Rest holds high rank as a foundation of health. It is in the form of complete relaxation that it is of such importance for children. Children are not necessarily resting because they are seated at their desks doing school work. Rest is not the antithesis of exercise but its complement. The education of the body goes on alike in rest as in exercise. In some states of the body the results we seek to obtain through physical exercise may more surely, or indeed may only, be obtained through rest. The silent processes of growth ask for rest as their first condition. The very development of muscles usually looked upon as the prerogative of exercise may be best effected in some children through rest. Proper rest is a condition of good posture. Like all other foundations of good health it must be laid in infancy and made secure through childhood. Children of all ages, but especially young children, suffer more to-day from lack of rest than lack of exercise. If it

THE SCHOOL AND THE FOUNDATIONS OF HEALTH

is wise for the adult to "study to be quiet", still more should we see that full opportunity for quiet and rest is provided for our children. The difficulties confronting the home in providing rest are sometimes practically insuperable. The body of the young child is fortunately singularly adaptable to the circumstances of its environment. Nevertheless lack of healthful sleep is very general. But proper rest through relaxation is a condition of the education of the body during the day as at night. In practice, in schools of all kinds, we seldom recognize this, not even in the infant school where it is of first importance. As already indicated, it would be of untold benefit to our children towards the education of the body if they remained at school for the mid-day meal. The opportunity provided for rest and relaxation, as complete as seemed necessary for each child, would make a profound contribution towards the same end. Probably all children would benefit from actually lying down in the middle of the day. Young children, as is well known from the experience of the nursery and open-air school, would sleep. The idea that older boys need rest in this way would be derided by most people. It is a recognized practice of some of our best-known public schools.

THE NEED FOR NEW OR RECONSTRUCTED SCHOOLS

There is not in this chapter space to trace out the application of these fundamentals of health in relation to each type of school. That in any event is a matter for the administrator and the teacher when once convinced of the necessity for leaving no

stone unturned to secure the full education of the body. Some indication, however, may be given of the changes necessarily called for in the school building and its environment if these are to make their full contribution to the physical development of the child. Though imperfectly recognized, except in the case of new school buildings, these changes are implicit in the programme of education advocated in the Reports of the Consultative Committee of the Board of Education dealing with the Senior, Junior, Nursery and Infant School, respectively.

It is now generally agreed that the provision of these fundamentals of health is of paramount importance in the case of the young child. It is wasteful in the extreme to wait until the child attends school at 5 years, the compulsory age of school attendance. Various defects and diseases may have developed by that time and the general health have suffered seriously, due, in many cases, to the lack of medical supervision and treatment and of the provision of the fundamentals of health. This is not the place to discuss the measures which might be taken to follow up the admirably developed work of the Infant Welfare Centre up to the end of the first or second years of life. But one measure, and that perhaps the most important of all, the provision of the nursery school, comes naturally within the scope of this chapter. It will not, however, be necessary to deal with it at any length, for the subject receives full attention in Chapter II of this book. It will suffice here to say that in conjunction with the parent and the home it forms the surest instrument for providing the child with all those fundamentals

of health with which this chapter deals. And then it should be recognized that on physiological and psychological grounds there is no justification for choosing the years between 2 and 5 for special treatment. The upper limit is determined solely by the fact that at 5 years of age the attendance at school of the child becomes compulsory. What is urgently required in the interests of the health, physical and mental, of the young child is that all infant schools should become nursery infant schools embodying all the features of a modern nursery school. The provision made should include the following as essential factors. The fact that there are areas in which infant schools are necessary where such provision may not be considered practical, in no way detracts from the essential character of the features included. Every infant school would thus admit, in addition to children from 5 to 7 years of age, all children between the ages of 2 and 5 years whose parents may wish for their attendance. They would be built or reconstructed—and the majority of infant schools to-day require either to be rebuilt or reconstructed—on open-air lines with easy access to a garden, with the provision of hot water and facilities for bathing (wherever water is laid on); facilities for the provision of meals, rest-beds; a suitable playground in the garden with climbing and other apparatus, sand pit and provision for keeping school pets.

Similarly all junior (children 7-11) and senior schools (children 11-15), in order to comply with the requirements of modern day education, especially those relating to the education of the body, need to be either built or reconstructed on open-air lines.

In spite of the many new schools recently built it is probable that not more than three-quarters of existing schools reach the required standard. The education of the body on the lines already outlined in this chapter requires for its attainment ample cloak-room accommodation with individual lockers and arrangements for the rapid and effective drying of damp clothes; ample lavatory and sanitary accommodation and the provision of individual towels, of a gymnasium with shower-baths attached and ready access to playing-fields, and, wherever possible, a swimming-bath; facilities for midday rest and relaxation. Further, the importance we have attached to the first fundamental of health, good nutrition, demands in so far as this depends on food and feeding, the provision of proper kitchen facilities, dining-room, etc; full opportunity for the teaching of home craft, and opportunities wherever practicable for gardening and the growing of school vegetables.

Then, for the creative work, which, as we have seen, plays its part in the education of the body, proper workshops and science rooms are needed for both boys and girls. The insistence on opportunities for relaxation and quiet as part also of the education of the body and for individual work and preparation, calls for a school library and reading-room in all large schools, apart from the class-rooms.

HEALTH EDUCATION

It will be readily understood that, if full benefit is to be derived from the provision for the child of

the foundations of health, the co-operation and understanding of the child must be secured. The first essential is to bring up the child in an atmosphere of health; to provide a way of life in which it may walk. But it will only continue in this as its own understanding is enlisted. What this involves is fully set out in the Board's *Handbook of Suggestions on Health Education*. The first essential is a foundation in biology, dealt with in Chapter XIV. For a proper understanding of health—individual and communal—life around the child, animal and vegetable, should be utilized in the education of the child from the nursery school onwards. Its own life processes should all through be linked with this life around. It is the practice of health through the whole of the developmental period that matters, but as the child becomes the adolescent and passes into early manhood and womanhood, the practice will largely depend upon factual knowledge and understanding in relation both to the life of the individual and to that of the community.

THE LATER YEARS OF ADOLESCENCE

It has been indicated earlier in the chapter that the period from birth up to 18 years must be looked upon biologically as the great developmental period, involving a smooth unbroken becoming both of body and mind and demanding all through the right conditions for ensuring full physical and mental health. Educational planning stops for the great majority of boys and girls at the ages of 14 or 15 years. There is, comparable with the lack of

planning for children under the age of 5, a failure to understand the biological significance of the adolescent stage. An extension of the operation of the school medical service to embrace all young people up to the age of 18 years is urgently required. At present much of the value of the service is lost. Dr L. P. Jacks in particular has warned us how illiterate physically are many of our adolescents as they enter upon early manhood and womanhood. On the side of physical training and games the nation has recently taken action likely to bear good fruit. But this represents a partial understanding only of the problem. We need a careful consideration of all the needs of youth, the provision once again of the fundamentals of health, including recreation in its various forms, of facilities for continued and appropriate education with due regard to the claims of industry; of education in matters of health and ready access to medical help and advice in connection both with physical and mental health, rather than the opportunity merely to consult a doctor in the case of ill-health. We need, in short, to understand adolescence and to provide an environment for its efflorescence very different from that of to-day. Adolescence has, in the life of the young child, its roots, in that of the adult, its fruits. We are insuring to-day a much more healthful preparation for adolescence than in the past. We are harvesting a crop often unnecessarily poor in quantity and quality through our neglect of life during the adolescent period itself.

Part-time education in the Day Continuation school is associated in the minds of many people

THE SCHOOL AND THE FOUNDATIONS OF HEALTH

chiefly with the opportunity it affords for continued school instruction. A wide understanding of the meaning of education would make the case for education up to 18 unanswerable and probably universally acceptable. Its primary function would be, in many cases, the further education of the body through games, physical exercises and gymnastics, swimming, the exercise of crafts, "journeys", camps, and the like. To extend the period of compulsory education would produce a more balanced result than making physical training "compulsory". But for a full discussion of adolescence the reader must turn to Chapter V.

THE SCHOOL AND THE HOME

It will be evident from what has been said that the planning of an education directed towards the development of the whole child must touch the life of the child at all points. We are confined in this chapter to its life at school. But the very limitations imposed upon the school, even when the fullest use is made of the many facilities offered for ensuring for each child the foundations of health, must necessarily make the school anxious to co-operate in whatever way and extent possible with the other lives lived by the child—the life in the home, socially among its companions, in industry. We must here confine ourselves to the home. The school can only influence the environment of the child at home through the parent. When the main business of education was concerned with "straight" education—the instruction of the child in the subjects of the

school curriculum—there was little incentive on the part of the teacher for co-operation with the home and parent beyond the necessity for regular attendance of the child at school. With the growing understanding that education was a process which meant following closely the biological development of the child and the consequent importance attached, first to the physical condition of the child and then to its emotional development, the teacher has been becoming increasingly aware of the need for learning all that is practicable of the life of the child out of school and particularly the circumstances of its home environment. The school medical service has rendered an indirect but valuable contribution to education in that it has brought the parent into much closer relation with the school than formerly. This relationship now needs fuller development. Further reference is made to this important aspect of educational planning in other chapters. In these days of propaganda through the press, radio, and cinema in regard to the physical and mental health of children, many parents welcome the help they can get through meetings, informal talks, conferences, which the school, with its parent-teacher association as an organic part of its structure, can provide.

CONCLUSION

This chapter has attempted to indicate what is involved in educational planning for a modern democratic State from the point of view of good physical health as the primary requisite for all-round good mental health. From the commencement of this

century onwards immense improvement has taken place in the conditions under which children live from the day they are born till the day they leave school. And what has been done through the local and central authorities and through voluntary organizations, working in close association with these authorities, has borne fruit, which can be clearly demonstrated when we compare the physical condition of the child to-day at all stages of the developmental period with the conditions obtaining, say, thirty years ago. But the claims made by and on behalf of the individual have grown in proportion. What was good enough for a State which might justly be called a political democracy is very far from satisfying the claims of a democracy when social considerations hold first place. The determined, sure, but rapid, pursuit of all measures leading to the fullest development of each individual, within the setting of the community, of his innate physical and mental powers, leaves no room for satisfaction with the present. But the first condition is the *will* to democracy. Given the sincerity of this, there will be comparatively little difficulty of educational planning towards the desired end. Nor will finance offer a serious obstacle. It will become a question of putting first things first. What may perhaps be difficult will be to secure recognition of the primacy of the education of the body. Admittedly radical changes in our school buildings and equipment are involved. Nevertheless, education of the body, compared with that of the intellect, is a comparatively simple affair. In the development of the intellect each child is born with innate capacities :

" thus far and no further shalt thou go ". Equality of opportunity, not of provision merely, is called for. This postulates immense variety in planning and equipment, so different are the opportunities required by children, due chiefly to difference in intellectual endowment, but also to differences in environment. On the other hand, the vast majority of children born are physically potentially capable of attaining the highest. The conditions needed are the same for all. It remains only to provide them.

CHAPTER IX

ORGANIZING EDUCATION IN A MODERN CITY

IF an Archdeacon can be described as a person who performs archidiaconal functions, it would seem sufficient to define a local administrator as someone who administers the law in terms of his locality. But to administer, it is necessary for him to have an objective, some kind of working philosophy; for, as Montaigne says, "no wind makes for him that hath no intended port to sail unto". In English educational administration at present there seem to be two principal points of view, one stressing individuality and the other the claims of society. Usually some sort of amalgam or marriage of convenience between these opposites takes place in the administrative mind. Nursery schools are advocated as places in which babies develop their distinctive personalities and acquire communal habits; organized games are promoted to develop self-reliance and foster a team-spirit, a national fitness campaign is launched to create an A1 nation and enrich the store of individual health and happiness, and so on. This paradoxical mode of thought is well expressed in the first

Hadow Report as follows "A well-balanced educational system must combine these two ideals in the single conception of social individuality. The general aim should therefore be to offer the fullest scope to individuality while keeping steadily in view the claims of society." This indicates more or less the kind of working creed to which the modern administrator aspires, though inevitably always falling short of it.

City life has come in for some hard blows in recent years, and at week-ends especially it suffers an exodus which is hardly complimentary to it. But at the least there is this much to be said for it, that it provides a choice of educational opportunity not to be found in any other type of administrative unit. Between the nursery and the university stages one can count more than fifty types of educational institution in contrast with the four or five to be found in the average market town. In this respect, therefore, the boy or girl brought up in the smoky atmosphere of a modern city is fortunate, and it must also be conceded that for the adolescent and the adult there are bracing intellectual influences in the life of a city which help to compensate for the absence of hills and streams, green fields and natural beauty. "Everyone", writes a distinguished Manchester Head Mistress in her autobiography, "knows what the city has meant in music, politics, literature, and journalism. To live in it for more than six and twenty years, and to be associated with some of its public institutions was a privilege indeed. . . . One can be a citizen in truth, can find worthy and

effective scope for public and social work, and can enjoy the extraordinarily stimulating experience of community action for worthy ends, not only with one's own profession and group, but with a great concourse of fellow-citizens of other callings, under the leadership of able chiefs known and honoured personally or for their office "

Without entering into that question which vexed the Greeks as to how large or small a city should be to form an effective social and administrative unit, it may not be inopportune to observe that the outward drift, the garden city, and the satellite towns are rapidly changing both the social characteristics of city life and the nature of its administrative problem. Constant legislation, the tendency to create new *ad hoc* committees and councils, the modern technique of conferences and consultation all tend to place a burden on the public representative and the official and make him live his life in a conference atmosphere out of actual touch with the problems he decides. Graham Wallas used to deplore the use of inanimate words like "system" or "mechanism" to express organization, and certainly the good that a city education authority can do is diminished if those principally responsible for its administration are unable to personalize the problems which they have to solve. Education, it has been said, is a *crescive business*, θερμόν τι πρᾶγμα and it is necessary for its administration to be fairly human and intimate if it is to fulfil its proper mission. Reference has been made to the wide range of opportunity which life in a city offers to a boy or girl, and one of the principal

administrative tasks is to secure that these facilities are managed in such a way that the needs of the individual pupil receive due consideration and that the education available reaches those for whom it is designed. Scheme and system, however carefully devised, will not accomplish this without close and happy collaboration day by day between the teaching, medical, and administrative branches of the education service.

Our administrative intent, however far we fall short of our aim, is to do the best for every child and to care for the weakest no less than for the ablest. As a rough-and-ready computation, it may be assumed that rather more than 10 per cent of the school population is under some handicap intellectually or physically, they have been described as "the submerged tenth" of the school world. A close-up of this part of the picture, however, shows that it has many characteristics, all of which demand administrative thought and action. The magnificent research work done in the last twenty years has evoked in all local authorities a new understanding of the necessities of the subnormal child. It is realized, for example, that dullness, backwardness, and retardation are not synonymous terms: and one less often hears those hasty generalizations in which causes and concomitants are confused. Perhaps the most impressive change of all lies in the recognition of the part which a sense of inferiority plays in the make-up of a subnormal personality, with the result that administrators are co-operating with teachers to secure better and brighter conditions for these children in an endeavour to foster a sense

of pride in their environment and their activities. When the first Hadow Report was issued it was customary to advocate the reorganization which it recommended on the ground that in the all-age school the brighter children were slowed up by their average and less than average class-mates the analogy of the speed of the convoy being regulated by the slowest vessel became a *cliché* at educational gatherings. In practice, one finds that the slow child is benefiting by reorganization as much as, if not more than, his brilliant colleague, because now he is able to work in a class with pupils of his own mettle, and, what is more, his problem is attracting the interest of some of the ablest teachers in the country with remarkable results. In organizing the educational provision of a city it is usual to provide Special Schools for educable children of very inferior intelligence (I Q. less than 75) and special classes in normal primary and post-primary Schools for educable children of inferior intelligence (I Q. 75-85), and, owing to the need for the closest individual attention, the classes are as small as circumstances will permit. Teachers with a vocation and special training for this kind of work can do wonders with an appropriate curriculum, if provided with the equipment necessary for practical and recreative teaching. It is unwise to assume that all teachers who come to this work with a sense of vocation will wish to continue with it for a great many years, and it is well to remember that a few years' service with subnormal children not infrequently enhances a teacher's capacity for understanding the normal child. There is much to be

said, therefore, for readiness on the part of an authority to transfer teachers from Special School work when the desire for such a move comes : and it is important not to confront a teacher in his or her initial years of service with a class of children who demand not only sympathy and understanding but also some degree of experience. There are, of course, many teachers to whom the subnormal child makes an unchallengeable appeal. they are the great people of the Special School realm, and, for them, it is a dedication without thought of transfer or reversion to the more usual branches of the teaching service. An education service is greatly strengthened in its work, especially in a densely populated area where the strains and stresses of home life are necessarily greater than in a simpler environment, if it includes in its provision a Child-guidance Clinic staffed with a well-qualified psychiatrist and a psychologist working in close touch with the schools. It is fairly obvious that the Remand Home, the Approved School, the Children's Act service, the Special School, cannot get along without advice of this character, but it is no less true that such expert knowledge is invaluable in disentangling some of those queer disorders of mind and spirit to which all children are liable. Happily, there are not many crippled children, not more than about 1 per cent of the school population, and, with the aid of modern transport, it is possible to accommodate them in one or two schools specially planned and equipped for their care and training. If you are feeling despondent, there is no better antidote than a visit to a good school for cripples, for there you

will find optimism triumphant and a spirit of sturdy courage that will shame you into cheerfulness. The hero of those engaged in this work is the late Sir Robert Jones, and their achievements bear witness to the success of the revolution in orthopaedic treatment which he inspired early in the present century. It would, to quote a Government Report, "have astonished the men who two centuries ago dreamed of an organized system of relief and amelioration for the cripple. We now know three things they did not know. First, the cripple is *made*. He is not an accident, though accidents may sometimes make him. He is largely the result of preventable disease, which has not been prevented. Secondly, the cripple can often be *mended*. If taken early his deformed body can be straightened and restored. Thirdly, the crippled child can usually be *trained* to become a good citizen and a skilled workman." Rickets is now comparatively rare, while tuberculosis, that other principal cause of crippling, is on the wane and it is noticeable how seldom nowadays one meets people suffering from those minor postural defects once relatively common. In the modern city you will find (a) a good system of ascertainment of physical defects in the earliest stages, (b) one or more accessible orthopaedic clinics, attached, as a rule, to schools, (c) a sanatorium probably in the country with a residential school for tubercular children, (d) a residential orthopaedic school for other difficult cases, (e) one or more day cripple schools, and (f) a well-considered scheme of after-care which has the sympathy of firms with a personal interest in the orthopaedic problem. One

can hardly pay too high a tribute to the achievements of the orthopaedic surgeons, the medical service, and the teachers, who have chosen this field of work.

The special problems of the blind and the deaf are not so encouraging, and great honour is due to the specially trained teachers and other workers who devote their lives to alleviating the lot of persons so afflicted. Happily, it is not in either case numerically a large problem. In a school population of 100,000 there will not be more than about 40 totally blind children nor more than about 90 who are totally deaf. Classification is so important an element in the organization of their education as to make concentration of numbers almost essential. For this reason it is desirable to take, if not a national view of both problems, at any rate one which enables them to be thought out on a regional basis. There still, however, remain important local aspects to be dealt with for example, early ascertainment, prevention, and the education of those partially afflicted. Much can be done to prevent deafness by the employment of an aural specialist, while there is much progress yet to be made in the standardization of diagnosis. The growing use of the audiometer is not only improving diagnosis but is also disclosing aural defects which formerly escaped detection. When six years ago Dr Eicholtz made his masterly report on the problem of the deaf he stressed the importance of research, urging "a new inquiry into such topics as the elaboration of standard intelligence tests for the deaf, the application of psychological knowledge to the problem of deaf education,

and a closer study of all methods of communication " A good deal of progress is being made in these and other directions : there is a growing tendency on the part of local authorities to provide special classes for partially deaf children in which their requirements are being studied. The Board of Education have recently carried out an inquiry into the problem of partial deafness, and some valuable research is being accomplished of which a happy example is the work of Dr and Mrs Ewing in the University of Manchester in which the Laboratory, the Training of Teachers Department and the Residential Schools at Old Trafford all co-operate. There is one vital need in the education of the partially sighted which has not yet been adequately filled and that is the provision of a good supply of specially printed literature. It is impossible in a short chapter to refer to all the special services which a city provides for children who are handicapped in one way or another. There are, for example, the open-air schools, often situated in the country or by the sea, for convalescent children, and there are orphanages for children who, prior to the Local Government Act, 1929, were under the care of the Boards of Guardians, while among the minor institutions the speech-therapy centre deserves mention for the excellent work it achieves in the cure and amelioration of stammering and for the service it renders to children with cleft palates. In planning the special services there is one phrase which recurs with an almost monotonous insistence—"early ascertainment", and one cannot but feel that here lies one of the great opportunities for a

far-reaching reform. The nursery stage has been fully dealt with in an earlier chapter, and it is unnecessary, therefore, to discuss it here in detail, but it is well to emphasize the fact that in educational planning its importance can hardly be exaggerated.

The first Hadow Report is probably the most constructive of the official documents about Education written in the present century: many ideas now current can be traced to it and much of our educational planning during the last decade is based upon it. In populous areas primary education is now almost uniformly conceived as consisting of three stages: nursery (up to 5 years), infant (5-7), junior (7-11). In the practical application of this conception authorities vary, and their practice is conditioned by exigencies of number, accommodation, and finance. The transformation of the Infants' School is one of the most impressive educational achievements of our time, and our debt is great to the women who brought brightness, movement, and joy into the infants' class-rooms. Advocates of the Nursery School sometimes speak disparagingly of the nursery sections of the Infants' School, which, deprived of it, has only a two-year span of a child's life. But it is well to remember that there are arguments for incorporating the nursery section which deserve as much consideration as those in support of constituting it a separate entity. Nor is it certain that sufficient attention has been given to yet another view, which Miss Freda Hawtrey has championed, of establishing nursery schools with 7 as the maximum age limit; and it is interesting to notice that the London programme recently issued

provides for one school of this type. Before any conclusions are reached, one would like to see a good deal more experimentation, and meanwhile it would be helpful if the various schools of thought would view the experiments dispassionately and forego the temptation to make an orthodoxy of their particular preference. Too often in the educational world the battle-axe of controversy has barred the path to progress.

For the teacher who desires to pioneer, there is a wonderful opportunity in the new junior school which has come into being as a result of the general acceptance of the Hadow "break" at the age of 11 and has received a further impetus from the Education Act, 1936, which has encouraged the denominational bodies to bring their school organization into line with the Hadow gospel. The junior school has its children for four plastic years during which their emotional experiences have an important bearing upon their subsequent character. The curriculum is still an uncharted sea, and there is really only one obstacle to freedom and experiment, namely, the fact that, in their last year, the children have to sit for admission and scholarship examinations which may, in one brief day, determine their opportunity in the post-primary realm. The recent Government Report upon Homework and subsequent discussions revealed the parental demand for "coaching" at this stage, but as the whole question of examinations is dealt with fully in one of the following chapters, all that need be emphasized here is the importance of getting rid of a system which compels little children of 11 to engage in an intellectual

tournament fraught with momentous consequences for themselves and often for their parents.

At the post-primary stage, especially when Hadow reorganization is complete, the city-dwelling parent is confronted with a number of educational alternatives - secondary, central, senior, junior technical schools, and so on. The Board of Education's Consultative Committee, after four years' deliberation, is on the point of reporting upon the form and content of the curriculum of these post-primary schools, and it would be inopportune, therefore, to discuss the future of their organization in any detail. But there are two kindred points, fundamental in character, which seem worthy of comment. "There is not a country in the world", Mr. Podsnap once finely observed, "where so noble a provision is made for the poor as in this country". This might well be said of our system of municipal secondary education with its provision of special and free places, and its scheme of maintenance grants. But secondary education is a wide term and it connotes at least three types of school. (*a*) the Public School, (*b*) the non-maintained, (*c*) the School maintained by the local authority. Their educational scope is similar, and in a general sense their staffs are of comparable intellectual calibre. But in the boys' Secondary Schools especially these administrative differences wear a social complexion, and among headmasters there is a tendency to perpetuate distinctions in a manner which, to those unable to appreciate social subtleties, recalls too often the gentlemanly rivalry of Tweedledum and Tweedledee. This caste complex, or "class-feeling", as

Dr Cyril Norwood recently called it, would not greatly matter if it had not an important bearing upon the organization of post-primary education in populous areas. For, however carefully a local authority may provide alternatives—secondary, central, senior, junior technical—the parent, making his choice often solely on social grounds, prefers secondary. “The difficulty”, as Professor Godfrey Thomson has said, “is to create the different types of schools side by side on a social equality, without permitting them to appear higher or lower in a scale of snobbishness. The difficulty arises because one of the types of school will resemble the present socially favoured school more than other types will.” The position is improving as a result of the closer approximation of the architectural and playing-field standards for the different types of school, but it will be many years before it becomes a general practice to make the post-primary selection upon strictly educational considerations. The Code just issued in Scotland which deals with post-primary education without administrative distinctions is a document which, after the Scottish tradition, might usefully find a niche for itself across the Border. Another point which requires a great deal of thought arises from the impossibility of sorting children for different types of school at the tender age of 11. The present method of selecting children according to merit as indicated by some kind of examination or test and awarding the ablest performers the available secondary school places is justified by the somewhat untenable assumption that high intelligence is the right criterion for admission to a Secondary

School. Admittedly, the aims of secondary education are rather confused and uncertain, but, in any case, it is questionable whether all the ablest children should be offered places in Secondary Schools regardless of aptitude or parental intention. For the reasons mentioned above, parents, when offered a place, are inclined to accept it feeling that they are doing the best for their child, and thus the Secondary Schools, except those with a money bar, receive only children selected because of their high I.Q. or their examination attainment. It is, of course, ridiculous to suppose that at the age of 11 you can predict a child's vocation or feel positive about his or her aptitude. Such considerations could be more usefully taken into account at the age of 13 or 14 if an educational reshuffle could be made practicable at that period. Clearly, however, the full value of the present variety of post-primary education will not be realized until (a) the parent makes his choice uninfluenced by social considerations; and (b) a method is devised whereby, at a certain age, the schools can receive the pupils for whom their curriculum and their buildings are planned.

The organization of technical education in a modern city is a vast problem, and it is only possible here to touch briefly upon certain aspects of it. It is now generally recognized that no city is a sufficiently large administrative unit by itself to deal with the more advanced stages of technical, art, or commercial teaching. It is necessary to think regionally and to group students from a wide area in courses appropriate to their need, by concentration it is possible to justify the provision of courses that

would be impossible without the collaboration of several neighbouring authorities. Hence regional organizations have, in recent years, been established in most parts of the country which, in co-operation with industry and commerce, plan the scope of technical, commercial, and art education, and facilitate inter-authority financial arrangements which enable students to attend technical, art, or commercial colleges in any part of the region. A further service which the Regional organizations are able to perform is the preparation of prospectuses indicating the various educational facilities available throughout the region in particular industries, thus enabling employers and students readily to obtain information as to what courses appropriate to their special requirements are available. Another important development in technical education is the stress now being laid upon the importance of the social life of the colleges, and the provision of better amenities in the way of playing-fields, swimming-baths, gymnasia, refectory, and common rooms. An impressive feature of the last two or three years has been the number of new Technical Colleges and Schools erected and planned, in designing which local authorities have been influenced not only by English conceptions of technical education but also by the provision made in the modern Technical Colleges on the Continent and in the U.S.A.

The greatest optimist could hardly claim that, as a nation, we are really giving our adolescents a straight deal. Our Juvenile Employment Bureaux are doing valuable work as a bridge between school and vocation, but it is difficult to deny that, while up

to the age of 14 or 15 children are provided with a relatively good education, they are then suddenly pitchforked into industry and commerce. They pass from an environment in which there is almost an excess of social guidance into a grown-up sort of world in which there is a fair amount of sink-or-swim philosophy : the youthful lad or lass has often unaided to find new social bearings, effect some complicated psychological adjustments, and decide how to spend or mis-spend a worker's leisure. If the leisure is mis-spent, there is every chance of the young person being called a juvenile delinquent, but the more likely result is that he or she (and both sexes are an equally important problem) does not grow up into just that fine type of citizen which everybody at school expected. The Home Office inquiry into delinquency will, no doubt, in a year or so reach certain conclusions, but meanwhile we can hazard a guess that, for city areas, among their principal recommendations will be (a) playing-fields, (b) indoor recreative facilities. For delinquency is but a symptom of a much larger problem, namely, the use of leisure in the high-spirited time of childhood and youth. "young blood must have its day". If you do not provide these opportunities, then inevitably you get frustration, lawlessness, and idle hands. Delinquency among juveniles is almost entirely a picking and stealing problem : "of all the cases which occurred", says that admirable report which Birmingham has just produced, "97.2 per cent were cases of larceny. Most of the offences appear to be spontaneous rather than deliberate, and tend to be committed by the less intelligent children."

The solution surely lies, not only for these young delinquents but for the whole phase of adolescence, in providing children and young persons with more and more evening occupation. Cities which have provided evening play centres know their value for the younger element, while an evening institute with its recreative side strongly developed or a well-run club is of inestimable value in the moulding of character, and in these days of clearance and rehousing, playing-fields and open spaces should surely be a primary consideration in any lay-out and an essential feature of any housing scheme. Happily there is evidence that the value of the recreative aspect of the Evening Institute is being more and more recognized, and there is also an increasing tendency on the part of housing experts to remember the need for playing-fields when housing schemes are being planned. One may, indeed, assume that recreative provision will become a normal characteristic of the Evening Institute, and it is a relief to find that a recent statute has found a way of rescuing recreative classes from a number of burdensome regulations about registration and time-tables which have for long hampered their development. Most urban authorities nowadays provide camps, and teachers and camp-leaders recognize their value as a means of establishing a closer relationship with senior pupils or the adolescent boy or girl. The camp renders many services: it promotes health, yields a rich bounty of happiness, and, under the right leadership, has much educational value. Not least of its merits is that it serves as an introduction for the city-bred lad or lass to the joys

of the open air, and often creates a love of nature which, subsequently fostered by the Youth Hostels Association and similar movements, becomes a life-long possession.

One of the happiest features of educational administration is the good understanding between the Board of Education and the local authorities. The latter may complain that grants are distressingly meagre, but there is no real divergence of aim and there is a fairly clear demarcation of responsibility. The justification for a local government of education must in the ultimate always rest upon its ability to be more intimate and more appreciative of actual needs than a distant authority can hope to be. The continual expansion of local responsibilities makes the paternal outlook more difficult and lends encouragement to an undue administrative faith in memoranda and statistics. It has been said that when the Breton fisherman puts out to sea, he prays. "Help me, O God. For my boat is so small and Thy ocean so wide". A local administrator must often experience that same feeling of inadequacy, and what is true of the administrative sphere is becoming apparent also in the teacher's province. The ever-widening range of school activities tends to absorb the whole of a teacher's personality and to confine his interests entirely to the abundant life of the school community. There is a real danger, therefore, that the service of education may suffer as a consequence of this absorption of the teacher and the administrator in their respective orbits. Both administration and teaching may, in quite different ways, lose the virility which comes

from contact with other points of view, and the service, whether in the education office or in the school, may incline to become rather too exclusive and cloistered. It is interesting to notice that quite recently the Board of Education have appointed a Public Relations Officer, and it is not impossible that in the next few years more attention will be paid to the external affairs of the educational world. It is reasonable to suppose, for example, that local authorities will regard it as a principal administrative duty to enlist and maintain public interest in education; and it may be that the importance of forging closer links between schools and colleges and the wider social life will become more generally recognized.

It may be contended that local authorities, through their public representatives, have always kept a close liaison with public opinion, and that Schools are in constant touch with parents, and assiduous in organizing Open Days. A strong case can, however, be made out for a more deliberate policy. The Press, for example, can be a great friend of education, but only if journalists are sympathetically assisted in their search for material and copy. We are by no means the most progressive country in our collaboration with parents, and there is much to learn in this respect from our infant and nursery teachers, who have been more successful than anyone else in this country in securing parental co-operation. There is still an element of truth in the observation which Bishop Creighton made a generation or so ago that all that the local authority in England demands of a

parent is that he shall be available for prosecution if called upon. We have not yet adequately appreciated the value of the Film or the Broadcast as a means of explaining to the public what we are doing. and certainly one or more films prepared annually by each local authority would give a stronger impression of the work that is being accomplished in the Schools than any official survey, however well written or widely distributed. One might also, with advantage, take a lesson from the mediaeval world, and arrange educational festivals at seasonal intervals to demonstrate specific features of our work art, music, handicrafts, physical training, swimming, sports, and so on. It is true that we have our exhibitions, but we have not yet made a regular feature of them so that the public will know that at certain customary periods they will be able to see particular aspects of education under enjoyable conditions. Probably nothing is doing more at present to make the "man in the street" sympathetic towards education than the fine work which is being done by some of the sports organizations which are entirely run by teachers a schoolboy cup-final brings the educational world near to the hearts of thousands of people.

This survey of a municipal education service is necessarily incomplete many important fields of work, as, for example, Adult Education, are not mentioned, while others have received quite inadequate attention. The magnificent contribution which Universities make to civic well-being and their influence upon education generally have

been passed by, as too comprehensive a subject for a brief review of this kind. But there is one aspect of educational organization in which Universities play a considerable part, which transcends all others in importance, namely, the preparation of the teacher for his vocation, and some reference, however brief, must be made to that. The form, content, and the social influence of the education service depends largely upon what teachers bring with them from the Universities and Training Colleges which endeavour to equip them for their task. A century ago, when the idea of a national system of education was germinating, reformers like Lord John Russell made the training of the teacher the first objective, and this view led to the foundation of the first Training Colleges by voluntary enterprise. Recently some of these voluntary Colleges have been amalgamated or closed, but this has been due to financial stringency rather than to any obvious change of outlook on the part of those concerned. The practice of local education authorities, whether they maintain a Training College or not, is to recruit their teachers from the country as a whole, and to look to the Universities and the training world generally for their supply. It follows, therefore, that they are profoundly interested in the whole question of training, and there is a feeling at present that the time is ripe for a comprehensive survey of the problem on lines similar to that undertaken in 1925 by a Departmental Committee. So much has happened in the educational world in the intervening years, notably in relation to Hadow reorganization,

that there can be little doubt that such a survey would achieve a useful purpose, and, incidentally, would focus public attention once again upon a vital branch of the education service. Nothing but good can ensue from a reconsideration of the purpose of training, from an examination of the valuable experimental work carried out in Universities and Colleges in recent years, and from a review of the system of certification in the light of new conceptions of education. It will be appreciated that such an inquiry might have an important influence upon the point made in the preceding paragraph as to the desirability of a closer contact between the School and social life, it would make a good deal of difference, for example, if the *visa* which gives a teacher right of entry into certain branches of the profession gave more adequate weight to those human qualities which play so large a part in the Schools of to-day. It would be reassuring also to know that the Universities are giving the prospective teacher, during the first three years of his university course, the best type of education for his life's purpose, one has sometimes an uneasy feeling that the faculty which he selects makes much the same provision for him as it would if he had an entirely different career in view. The inquiry could also hardly fail to throw some light upon the difficult problem of supply, and make suggestions which would tend to regularize the flow in relation to the actual need of the various branches of the service. Overpressure upon the student is another matter which calls for investigation, for at present, from the

age of 16 onwards, the intending teacher is under the continual duress of examinations. When an ample supply of applicants for admission to Universities and Colleges is available, it is usual to give preference to those who have done well in the Higher Certificate Examination, and thus access to a most human profession can be decided by the number of credits obtained in an examination designed for quite other purposes. How much we have overdone this examination fetish becomes apparent when you investigate why so many young teachers in the Infants' Schools cannot play the piano, too often the answer forthcoming is that, owing to the pressure of the curriculum from the school certificate stage onwards, there has been no time for practice. The strains and stresses of this crowded life leave the student insufficient time to think about the vocation which he has chosen, and this tends to accentuate the risk of maladjustment when he (and especially she) finds himself face to face with the realities of the school world. Recipients of guidance and sympathy during their years of training, young teachers suddenly find the role reversed and themselves called upon to serve others, and this inevitable psychological adventure becomes much more hazardous when the teacher serves his or her novitiate in the central area of a city where premises are often antiquated and the home conditions of the children often difficult. Herein lies the wisdom of the appointment by local authorities of a sympathetic officer available to serve as guide and philosopher of young teachers during the initial

years. A good library for teachers is a valuable provision, and it should comprise also film, gramophone record, picture and text-book departments, together with a quiet room for study and the reading of current periodicals and a common room for discussion. The novitiate stage is by no means the only difficult period in a teacher's career, let no one imagine that throughout a working life of forty years in busy city schools it is easy to keep abreast with modern problems and to retain that faculty for inspiration which school leadership demands. At the present time the Board of Education are meeting a great need by extending the provision of Refresher Courses, while systems of exchange with other countries and between local authorities afford valuable opportunities of gaining experience and obtaining fresh points of view. A wide development of post-certificate facilities would yield a rich harvest. For the spirit of service which animates the teaching profession to-day must surely be one of the strongest forces for good in the England of our time, and it is difficult to believe that the great work now being done in school, playing-field, and camp will not be reflected in the life of the people in the next generation.

CHAPTER X

THE SCHOOL AND THE CHILD GUIDANCE CLINIC

THIS, the story of the school's attempt to handle the unusual child, tells of an unpromising beginning but bids fair to have a happy ending. For although every good teacher knows that his business is to teach individuals rather than a class, the educational system as such has been incredibly slow to provide itself with tools, other than instruments of punishment, for dealing with the child who is in any way abnormal. The difficult child has been suffered with patience, as a nuisance must be, or ignored with undisguised contumely. Yet the briefest study of biography will show that the stone which the builders rejected has, with surprising frequency, become the head of the corner. And it may be added that one of the pillars of civilization, as opposed to savagery, lies in the benevolent and wise development of its extremest variants.

We owe it to the dull child that he first brought home to the educational systematists the impracticability of ignoring oddities in general. Separate classes and schools, with special teachers, methods and curricula came into being for mental defectives

in most school systems two generations ago. In due course those who were not mentally defective, but who were yet conspicuously retarded and dull, also received special accommodation and appropriate treatment. Recently the special problems of development facing the exceptionally bright child have gained consideration, and some school systems, *e.g.* that of New York, have set up special units to deal with him.

All these provisions are concerned only with children's intellectual variations. But, since the schools are concerned with character education also—indeed, this is the special boast of English education—it is surprising that no educational designer has recognized the necessity of arranging, in the evolution of the schools, for a special service devoted to those children showing chronically defective personality development, leading either towards delinquency or nervous conditions. For all too long the same methods of discipline were assumed to be applicable to every child, and it was considered enough to treat aberrations with punishment, severe in proportion to the aberration. This might have the superficial semblance of justice, but it was not education in schools.

The schools repeated with the unusual the methods which had worked tolerably well with the normal. In any case, the botched products of this system did not darken the doors of educational institutions long enough for the schools to realize that with exceptional characters these methods were worse than useless. They passed on, often irretrievably damaged, into adult life, and it was

left to the prison doctor, the penal reformer, the priest, or the psychiatrist to discover the unfortunate childhood history of the hardened recidivist or the psychoneurotic and to plead for wiser methods of character and personality discipline in schools.

From such lines of thought and through the agency of charities unconnected with the school system, the first child guidance clinics, concerned to handle the difficulties of the child with abnormal personality developments, came into being. Doubtless the rapid growth of psychology, and particularly of psycho-analysis, would soon have awakened the more enlightened educators to the possibilities of more fully controlled personality education, indeed, one sees such an independent impulse at work in developments in the more progressive schools. This same growth of psychology as a science was also leading to a better understanding of children's special talents, defects, and learning difficulties, so that the need was being felt for means of putting the new knowledge of learning into effect through some psychological service in the schools.

The idea of the child guidance clinic thus had several roots, but it is difficult to claim that the State educational system at first nourished any one of them. On the whole, it showed—and still shows—no hurry to assume responsibility for the character education, or re-education, of the aberrant or unstable child, through the instrumentality of the new methods which science is placing at its disposal.

The first psychological clinic, designed to deal

with mental ills as the medical clinic deals with those of the body, was founded in the United States by Wissler, as long ago as 1890. But the first effective clinic to deal with problem children did not appear until Healy established the prototype of all child guidance clinics in Chicago in 1905. At that time the psychologist, trained in a university department, had a forbiddingly academic approach to his subject, and, though he knew something about abilities and learning conditions, psychology had had little to say to him about emotional development. Consequently the practical American spirit hit on the compromise of linking the psychologist from academic circles with the medical man who had experience of mental hospitals—the psychiatrist. Together it was hoped that they would work out the psychology of the difficult and nervous, yet still essentially normal, child's development. Then, since work with children involved much commerce with parents and a proper knowledge of the home conditions, a social worker was added to complete a team of three.

Although psychology has developed greatly since those days, this traditional staffing of the child guidance clinic has persisted in the majority of clinics. In England, because the movement came later, the development of psychology to cover social and emotional as well as intellectual behaviour has found some expression in a newer organization of clinics run primarily by a psychologist, co-operating with a school medical officer or pediatrician who examines only on the physical side. The social worker trained in psychology remains.

This revised organization was adopted in the first psychological clinic in Britain, which was founded by Professor Drever at Edinburgh in 1926. It was quickly followed by a fully equipped child guidance clinic at London, directed by Dr. Moodie, though London had already become accustomed to the working of the psychologist in the school through the pioneer services of Professor Burt. Since then the development has been rapid and there are now some two dozen cities or rural areas with full- or part-time child guidance clinics. Only a few of these, however, notably Leicester, Birmingham, and Bristol, are actually directed and financed by the local education authority. The Board of Education is nevertheless making continual but slow progress.

A quick review of the main functions of the child guidance clinic, or the school psychological service, will put the reader in a better position to discuss the manner in which it may best be staffed and run. In the first place, it is necessary to emphasize that few people seem aware of the actual magnitude of the proportion of seriously "difficult" and abnormally nervous children in our schools. Among adults about one person in sixteen is at one time or another in a mental hospital. The proportion in prison, or deserving to be in prison, is not so certain. The neurotic have been estimated at one in ten. These three groups constitute the people who, as children, should be receiving help through the child guidance clinic—for childhood is the golden age for mental hygiene. It is evident that they are not a numerically negligible section of the child population. If we assume the figure to be as low as one in

eight we should find that in a city or rural area of 200,000 people about 3000 children in the schools would be in need of treatment. That is enough to keep a double team—two psychologists, two pediatricians, and two social workers—extremely busy

The variety of abnormality requiring specific assistance and treatment is very great. If one studies the lists of cases referred to the average child guidance clinic one would find the various types of disorder appearing roughly in the following order of diminishing frequency: rebelliousness, disobedience and offences against authority, nervousness and exaggerated or irrational fears, general backwardness in school, chronic stealing; truanting from school and home, excessive lying, emotional instability and inability to get on with other children, difficulties over feeding, difficulties over specific school subjects, enuresis and bed-wetting; tics, nail-biting, and finger-sucking, shyness and withdrawal from social contacts, excessive phantasy, stammering; masturbation, unusual jealousy and destructiveness.

To facilitate discussion we may classify these disorders in three categories: (1) delinquency and behaviour disorders; (2) personality disorders and nervous symptoms in the wider sense; (3) scholastic disabilities and difficulties in learning. One soon discovers surprising differences in their relative incidence in various economic and social groups, schools, or residential areas and in various levels of intelligence within the school. On the whole, personality problems are more frequent among the brighter children and those from higher social classes,

whereas delinquency shows the reverse distribution. Scholastic disabilities are also more prevalent in socially less-favoured areas. Sometimes scholastic backwardness in one form or another comes to constitute so large a problem that there has been keen dispute as to whether the child guidance clinic should concern itself at all with this third category of unusual child. On the whole, the clinics founded independently of the school system have decided to draw the line in such a way that they deal with special disabilities but not with general backwardness or the classification of feeble-minded children. On the other hand, the psychological service within the school system can very naturally and effectively include such a service. For many, indeed most, children referred to the clinic for unusual scholastic troubles are found on examination to be suffering from emotional difficulties also, sometimes of an obscure nature and often connected as cause or effect with the scholastic disability. It is impossible to draw a sharp line between cases of emotional disability and mental defect until an examination has been made. Thus it is most natural for the clinic to examine, diagnose, and classify all types of psychological and educational abnormality, even if treatment is handed over to special schools in regard to certain types of disability.

Since the founding of psychological clinics took place, the experience accumulated in their practising has led to considerable growth in our understanding of the various healthy and unhealthy attempts at adjustment made by children during their developmental years. We see the panic pro-

cesses of repression at work in the child in a fear-inspiring environment, we see the false adjustment by withdrawal taking place too frequently in temperaments prone to phantasy, we see Adlerian defence mechanisms and over-compensations accounting for much delinquency, whilst in many disabilities we may find an escape into ailments. By blind and inexperienced trial and error processes the child tries to adjust the limitations of his powers and the pressure of his impulses to the situations, often needlessly difficult, created by his parents, his school and his companions.

The task of the psychotherapist is not merely to remove the symptoms for which the child is commonly singled out, but to bring about a fundamental readjustment of the child to his environment in such a way that he can go on developing in a healthy manner. To do this, he must have something more at his command than was available to the teacher or physician, however skilful, of earlier times. Psychotherapy is, in its practice, an art, but it depends essentially upon the growth of a scientific understanding of human nature. There is no space here to show in any adequate way the new bases for understanding, or the manner in which scientific psychology has made its advances. But we may get an idea both of methods and results by glancing at an example. Burt and Healy, respectively in England and America, studied the causes of child delinquency by comparing a group of delinquent children with a group of children of steady character from the same schools and the same social group. They found consistently among the delinquents

more children of low intelligence, more conflict and broken homes among the parents, a marked lack of recreational facilities; vacillating, anomalous and conflicting standards of discipline; greater incidence of bad companions; more difficulties in school work, more chronic physical disorders and irritations, and more specific psychoneurotic conflicts in the histories of the children themselves

This example will suffice to show that the psychotherapist, dealing with behaviour problems in a scientific way, must have a great deal of data at his disposal before he can begin to think of diagnosis or treatment. His task is akin to that of an architect working with a knowledge of physical laws where before there was only the builder's "rule of thumb". The procedure of the psychological clinic is therefore, to begin with, a thorough medical examination of the child and a survey of his medical history. This is followed by tests of school attainment, intelligence and special aptitudes, carried out as soon as the child has become accustomed to the clinic, its play-room and its personnel. There may also be certain tests of temperament—for different temperaments can be expected to make very different adjustments to the same strains—and some measurements of interest and experiments with word-association tests.¹ At the same time the child is carefully observed in social play situations and in play with symbolic materials.

Meanwhile the psychiatric social worker has

¹ The reader interested in these approaches will find them more fully expounded in my *Crooked Personalities, in Childhood and After*, London, 1938

become a visitor, and if possible a helpful friend, in the child's home. Thus she is able to add to the necessarily meagre account of the child's behaviour and previous history commonly supplied by the school a great deal of valuable detail. Most important of all, she is able, perhaps in three or four visits, to build up a pretty complete picture of the child's relations to his parents, to his brothers and sisters and others. Since the parents are the most powerful emotional influences in the child's life she naturally devotes most consideration to their emotional adjustment to life and to each other, which requires a sympathetic understanding of their own past history and upbringing.

The line of action taken by the school psychology department varies greatly from case to case and makes use of widely varying facilities. There are some simple school maladjustments, revealed by intelligence tests and measures of attainment, which require nothing more than the drafting of the child to a more appropriate class or school, together with some remedial teaching. Simpler behaviour difficulties may sometimes be handled by giving direct advice to the parent as to new ways of treating the child. More commonly, however, deep-seated emotional reactions of the parents have to be re-directed by what virtually amounts to a psycho-therapeutic treatment of the parents through the combined and co-ordinated efforts of social worker and psychotherapist. In a fair minority of instances some medical treatment is indicated, with rest, change of diet, and occasionally glandular therapy, to remove a physical disability which is acting either as a psycho-

logical factor in the total situation or as a drain on mental energy and powers of physical adaptation

On the whole, it is rare for any trouble of a major kind to have arisen through persons in school. Most commonly the greater part of the work has to be done in the home and directly with the child. In the home one aims at altering physical conditions, opportunities for recreation, methods of discipline, and, above all, at influencing parental attitudes, often of many years' duration, by means of persuasion, incentives, substitute satisfactions, and personal influence. In the end, when family conditions are atrociously and irremediably bad, it may be necessary to apply in the children's court for the child to be boarded out, under the care of the local education authority, in a well-chosen foster home.

But however successful one may be in improving the environment, some damage has generally been done to the child's personality and some emotional re-education, combined with a period of patience on the part of teachers and others during the child's convalescence, becomes essential. This requires the child's regular attendance at the clinic for from three to thirty occasions, for direct psychotherapy, including play therapy and the bringing of unformulated difficulties into the salutary light of consciousness by means of free and intimate discussion. For a time, while he is getting to understand his unconscious habits of reacting to difficulties, the child may need to have considerable emotional dependence on the psychotherapist.

In addition to the services available at the clinic the psychotherapist needs to have at his disposal

many other resources. He will generally need close co-operation from the staffs of special schools and classes, remedial teachers and the head teachers and assistants in ordinary schools having problem children. He owes much also to Boy Scout leaders and clergymen who are able to bring powerful influences to bear and to provide suitable recreations and companions. In one city, Leicester, the clinic has been eminently assisted by the formation of an experimental school, staffed by teachers with special psychological training and fitted by temperament and experience to handle problem children or those suffering, in spite of good intelligence, from scholastic disabilities. Through such a school, working with classes somewhat smaller than the average, it is possible to put the recommendations of the psychology department far more effectively into practice and to supervise more closely the process of re-education. In general, however, the sources of referral are also the chief sources of co-operation, and they are the teachers in the local schools, the parents, the children's court and its associated probation officers, clergymen, general practitioners, hospitals, welfare agencies—and sometimes even the outraged neighbours of a problem child!

But however resourceful the clinic staff may become in drawing upon all possible collaborators who can influence for good the child's environment, the child guidance clinic is at present forced to admit the existence of certain cases in which it can do nothing. With painful frequency one finds that a pernicious psychological condition in the family arises from economic conditions, causing, for

example, lack of recreation, anxiety or overcrowding, which it is beyond the province of the clinic to remedy. Secondly, there are hereditary conditions, of which mental deficiency is the most outstanding and frequent example, constituting a call for eugenic action rather than for belated attempts at remedial work through the services of such an environmental agency as the clinic. Thirdly, there are conditions in which the clinic knows quite well what is needed, and in which 'neither economic deficiencies nor hereditary limitations play a part, but which yet remain irremediable through lack of co-operation on the part of the parents or police court and through the lack of any machinery whereby the recommendations of the psychology department could be put into effect. An act was recently passed through Parliament permitting the education committee to take charge of children found neglected, beyond control or in morally bad homes, but some of the worst child sufferers are in homes which, by police-court standards, can claim to be respectable. The last limitation under which this work labours is the psychotherapist's ignorance of his own craft: in spite of the immense need for research into nervous disorders and behaviour problems in children the child guidance clinics of this country, through lack of personnel and funds, have almost completely neglected systematic research.

The development of child guidance clinics has raised the problem of their relation to the home and the school. Usually no case is accepted for treatment until the parents have agreed to co-operate. Co-operation with the rising generation of school

teachers trained in the general principles of psychology offers fewer difficulties, but the teacher still has something to learn regarding the type of case which should be sent to the clinic. There is a tendency to refer difficult children and behaviour problems rather than the generally more serious cases of nervousness and stunted personality. Sometimes it is asked why the teacher should not deal with all these problems as he did, or attempted to do, before the psychologist was known. The answer would seem to be that he is generally forced to concentrate more on the subject taught than on the child ; that he has no time for the intensive individual work required , that he has no means of getting information about, or influencing, the emotional conditions in the home. Further, his training in psychology is not adequate for him to essay diagnosis and treatment except in the simpler problems.

Perhaps the greatest argument for the handling of these problems by a special psychological department is that the teachers themselves, once they have had experience of its working, find that the clinic is meeting a long-standing need. The contact of the schools with a special unit for the application of scientific psychology to educational problems has, moreover, led to fruitful ideas and radical advances in all fields of education. Indeed one might almost say that the most important contribution of the school psychology department has not been the obvious one of handling abnormal children, but the more indirect suffusing of all educational thought with such a psychological viewpoint that the " abnormal " child, in the old sense of a hopeless misfit, is no longer known

CHAPTER XI

ARCHITECTURE IN SCHOOL BUILDINGS

THE problem of designing school buildings must always take into consideration far more than the mere allotment of a fixed time-table and schedule of accommodation. Children have extremely receptive minds, and think mainly in the form of mental images which are affected to a large extent by environment; they can therefore be influenced in outlook and educated by their normal surroundings as well as by ordinary methods of teaching. In order that these sense impressions can be trained in a regulated world of true values, educational needs must be represented in the design and appearance of the school building by true architectural forms. These needs must include all physical, mental, social and administrative requirements of both the child and the whole community, as the one is intimately related to the other.

A school building that has not had its design based on these fundamentals will never be entirely efficient, nor can it be in itself satisfactory unless it attains the standard of proportion and detail that is an essential qualification for good architecture. To ensure that these numerous demands are fully

satisfied, it is essential that there should be a full collaboration between the architect and those responsible for the general education and social development. These must not only include those authorities responsible for the building, but doctors, psychologists, teachers, and all interested in the general administration of education. For this collaboration to be satisfactory, each should not only understand the results of the other's work, but the methods, principles and aims upon which that work is based.

Contemporary architecture is only new inasmuch as it deals with new needs and new materials, the basic principles of approach to planning, proportion and use of materials are the same as in every great period in the history of architecture. Everyone interested in this subject has individual tastes as to the qualifications of good architecture and so tends to search for a particular expression when considering a building's merits. Some look for mass, others symmetry, classical orders, or direct function. In spite of this variety of personal opinions, there are many buildings, of entirely different form, that are accepted universally as good examples of architecture. A study of these will show that while covering widely diverse needs, modes of life, materials, and architectural expression, the principles of approach have remained the same. From this the conclusion can be drawn that there are certain fundamentals upon which every building must be based if it is to reach a standard beyond that of a mere construction of brick and mortar.

The Dorian Greeks had one plan-form for their

religious ceremonies. Their architecture made use of one material, which was in turn limited to one system of construction, this made it possible for detail to be fully considered, which resulted in each new building being an improvement on the last. This natural sequence of development reached a climax in the Parthenon; a building whose plan was a perfect solution for its needs, the construction was true to the material, which was given life by the use of perfect proportions and detail, shadows were accentuated by incised lines, perspective was considered, and distortions corrected.

In the fourteenth century the different mode of life and religion accompanied by the development of the Gothic arch gave an entirely new architectural expression, a complete example of which can be seen in Salisbury Cathedral. Again there is the correct use of plan and material in relation to new needs and construction, combined with great attention to detail, proportion and perspective. It is the knowledge passed on through centuries of building that must be used as a basis for design, and it is this knowledge which must be followed and not the external expression of the age itself. Schools to-day are too often built in the "Georgian Style", which not only limits the function of the building to a standard below that of contemporary needs, but destroys the association of the original. Georgian architecture achieves perfection in domestic application, and its proportions and scale bear no relation to commercial or educational needs. Any preconceived idea of expression, either traditional or modern, cannot be adapted to new buildings if it

necessitates sacrificing any fundamentals. In fact, the architect must always seek without prejudice to fulfil the needs of his time

Since the industrial revolution, new materials, new methods of construction and practical necessities have come into being. The application of scientific research to building materials has involved many failures but has given a precise knowledge of their possibilities and limitations. Commerce has put new demands on buildings that could only be satisfied by the use of modern construction. The desire for speed has allowed no time for the consideration of those details which are so essential to architecture; instead, attempts have been made to create an architectural effect by superimposing classical detail in the form of ornament without any function. These details bear no relationship to the construction as a whole, and their delicate proportions are distorted by inconsidered application to multi-storied buildings. The flutes of the Greek column and the mouldings of the Gothic pier were each designed for their individual construction and cannot be interchanged, nor can they be applied to concrete or steel, so to-day detail must be designed that fits the function of these materials when they are used.

On the other hand, another misuse of contemporary expression has often been made in attempts to create a modern vogue which has completely lacked any understanding of the essential problems. Old materials have been plastered with cement to look like concrete, flat roofs have been applied to buildings designed for pitched ones, streamline

ARCHITECTURE IN SCHOOL BUILDINGS

shapes designed for fast mobile machines have been applied to static structures, this misuse of material and form results in badly proportioned buildings completely lacking in detail, inspiration or life. Much harm has been done by these methods, for unfortunately it is these buildings that are generally regarded as examples of modern architecture

Industry has imposed many new needs on construction, and because there was no preconceived idea of what these should look like, the plan and use of new materials were logically developed and their expression was true to their needs. The free shapes of their final forms are complete in themselves, there is no need to relate these forms to the human scale, as this factor is not one of the requirements. The result of the architect's work produces beautiful architectural forms which are direct statements of function and requirement, accepted as such because of their freedom from association. The abuse of modern material in ordinary building work and its correct use when applied to many new industrial needs, has led the public to regard modern architecture as being unsuitable for any building other than industrial.

The foot-bridge at Tossteg, by Maillart, shows the result of the correct application of new material to an old requirement. Familiar mass was not applicable and was discarded for the refinement of the true reinforced concrete formula. As in the Parthenon, the material has been cut and moulded to proportions accentuating its construction and strength. Detail necessary to give life to the column is unnecessary here, and has not been applied, as the

very slightness of the members is detail in itself. Again the logical use of material, construction, and needs have resulted in a perfect living structure.

School-designing constitutes a problem to which these basic principles must be applied. To do this, every point bearing any relation to social and educational requirements must be tabulated, every method of practical application must be considered, and the whole detailed and proportioned to create a live and stimulating example of architecture to make a suitable environment for the child.

In the past, general development of architectural form was very gradual, but to-day changes are taking place so fast that new expressions are evolved within each generation. Social and educational principles are subject to rapid development, and the requirements and expression of a school that was built thirty years ago cannot satisfy contemporary thought. These changes are so great that it is impossible to alter or adapt old buildings satisfactorily, so the modern school must be developed from the start in a new design. Many local authorities responsible for schools do not realize the full importance of these continual changes, and are still building sound solid structures based on a fixed schedule of accommodation, familiar mass and detail that limit the development to the extent of those schedules.

Freedom in education can only be achieved by free planning on sites suitable for future adaptation. This need for free development is one of the most important requirements of the school to-day and can be achieved by three different methods, each affecting the general design and expression. The method



ROTHSCHILD

chosen depends on the location, the system of education to be administered, and the probable trend of future development.

Certain localities and types of education demand an imposing building of sound material, such as brick or stone. If these are used, the plan must be so designed that it forms a nucleus upon which any future development can be used. This method requires very careful study as the heavy materials must be planned so that they will not have to be demolished when these changes come.

Stone and brick are old materials that have been developed to the limit of their natural laws of proportion. Good examples of buildings in these materials will show that in wall construction the proportion of solid is always greater than the proportion of voids. The walls give the impression of mass pierced by windows and not voids surrounded by a structural frame. This fact only applies to weight-bearing walls and does not apply to the post and lintel construction of the Greek portico or to the Gothic arch, neither of which are applicable to contemporary school requirements. The present demand for light and air necessitates large windows with lintels that span far beyond the natural limit of either stone or brick, and which can only be constructed in steel or concrete. Yet in spite of this combination the old laws of proportion apply. The building, then, would have two different wall textures: the one in which the window area is large would be a light structural concrete glass screen wall, and the other, mass weight-bearing stone walls pierced by relatively

small windows This point dictates the plan-form and must be considered at an early stage in the design By careful detailing of proportion this combination can be an extremely satisfying statement of the functions and needs of light, air, and materials The Greeks only detailed the structural members, and left the weight-bearing wall face plain, and similarly in the Gothic cathedral only the live construction of the pier string courses and frames to voids were moulded, the massive weight-bearing buttresses being left alone.

Concrete poured *in situ* is often used; this allows for complete freedom in planning but has the disadvantages of being extremely difficult to demolish and so limits flexibility; it also weathers badly when used in large areas unless surfaced with another material The school at Ville juif by André Lurçat is an excellent example of free planning but the concrete construction restricts freedom for development

Another method of ensuring flexibility is by using a light material that can be easily dismantled and re-erected as circumstances demand The plan in this case can be designed freely as a whole within the limits of the materials Of these the most suitable are wood, prefabricated concrete, or steel. Wood is an extremely flexible material and can be used structurally under stress or for wall surfacing, while recent developments in reconstructed wall-boards and plywoods have opened up endless possibilities, and broken down the old limitations of its use to an extent which seemed impossible a few years ago

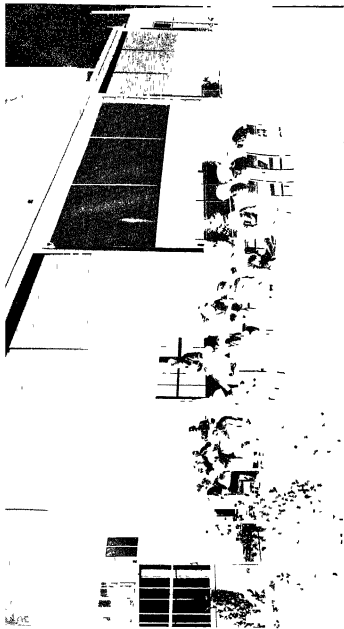
Prefabrication has been little used. It consists of precast sections which are assembled on the site, and is very suitable for many types of schools. The plan is limited to a unit construction, as the concrete or steel is cast or pressed into standard moulds; flexibility is thus obtained by the ease with which these sections can be taken down and rebuilt, the moulds, which are one of the most expensive items, can be kept and used for future extension, or can be used for another school built to identical requirements. The limits imposed by this unit construction are not great and leave ample room for the free development of the plan. The experimental school in California by S. Neutra is an excellent example of light steel frame and panel prefabrication.

The last method which allows for development is that of designing a school to last for a predetermined period of years, after which it will be pulled down and entirely rebuilt. In this case the plan can be regarded as final and can be formed as a complete whole. For this there are many patent light methods of temporary construction that are very suitable. The main objection to this type is that there are likely to be revolutionary changes before the life of the building has expired, or there may not be any great change for many years after, in which case the temporary nature of the materials is likely to cause shoddy appearance by faulty weathering, or even dangerous failure in construction.

The need for a good appearance cannot be overstressed. School buildings must be designed to provide the best conditions known for free development of the mind and body of both the individual

and the community. The need to acquire knowledge is part of this general development, and, as there can be no real understanding unless there is a strong desire to learn, it is the surroundings as much as the teaching that stimulates this desire. By careful planning, conditions of work can be closely linked with those of play, and so give the child a pleasing association with the school. All conditions that are cramping to the mind or body, or that impose unnecessary restriction, must be avoided whenever possible. Individual education can only be attained in an open plan which allows for unrestricted development of personal interests and the healthy activity of the child. Neatness and formal dignity need not be sacrificed and can be attained by careful planning within ordered proportional limits. The human element on which the school is closely associated can be stimulated by pleasing proportion, good colour, texture, and detail. Whatever type of construction is used, or however temporary the building, these items must never be ignored, as there can be no distinction between aesthetics and function, each being directly dependent on the other.

The success of any education depends mainly on maintaining a natural standard of mental and bodily health during working hours. To this end, light, air, and heat are extremely important and must be provided for. The body creates internal heat that must be kept in a state of equilibrium at the right temperature, either by natural physical movement or artificially applied heat or air movement. Any hardships of temperature, whether too high or too low, are increased by a lack of free activity while



SCHOOL IN CALIFORNIA ARCHITECT S NEUTRA

doing mental work which causes restlessness, distraction, and strain on both teacher and child; stagnant air encourages the spread of epidemics and causes respiratory diseases, mental fatigue, and restlessness

All these effects can be reduced to a minimum by the correct application of air and heat. Research shows that the air must be kept moving at a slightly varying rate that is just perceptible to the skin, at a temperature slightly cooler than the body. Any form of applied heat that warms the air should be avoided, instead objects must be heated by radiation distributed evenly over the whole area, while the careful design of windows is essential to avoid local draughts

Natural light must be used as much as possible and maintained at a generous minimum standard of intensity. Inadequate light and glare cause increased nervous muscular tension of the eye, discomfort, depression, and poor concentration. Glare is caused by bright points of light against a relatively dark background and can be either reflected or direct. Every working position should be so placed that it receives a large area of sky exposure in order that the child can receive the full benefit of therapeutic radiation, and every room must be in a position to receive any possible sunlight during part of the day. If a high standard is to be attained units of any size must have large windows on opposite walls. The average school building to-day allows for cross ventilation by having the main window on one side only with small ventilators under the ceiling on the opposite wall. A cross-section of a unit

planned on these lines shows that a child sitting near the wall receives less light, air, and sky exposure than one sitting by the window, making it impossible to give even regulation. At times when the external air movement is very low the area of the ventilator is not sufficient for the maintenance of the minimum desirable speed.

If large windows on opposite walls are well designed, it is possible to maintain a correct and even air movement in all but very bad weather conditions. In America artificial ventilation is often used, but this method is only satisfactory in places where there are extremes of temperature.

The problem of acoustics and noise is extremely important. To avoid irritation, distraction, strain, and waste of teaching effort, each unit should be placed so that it is isolated from both structural and air-borne sound, and each designed to give good acoustics for their purpose. Any noisy places such as workshops, playgrounds, gymnasiums, etc., must be planned away from the units where mental work is done, in such a way that they do not disturb one another.

The plan which satisfactorily covers all these points will cover an area approximately double that of the average present-day school. This results in an increase in cost and still forms the objection to its use, but the extra area can be used to great advantage in the form of terraces, courts, and lawns that are virtually within the building and are very suitable for open-air classes, forming a great addition to the general amenities of the building.

The plan of a building cannot be complete unless

ARCHITECTURE IN SCHOOL BUILDINGS

the design of equipment and furniture is fully considered. If small details such as the size of desks, chairs, stools, cupboards, and even exercise books, especially in junior schools, are badly designed, it can cause mental and physical numbness, bad circulation, and eyestrain. In order to allow complete freedom within the plan, all fittings must be light, movable, and easy to clean. Chairs and tables should be of a "nesting" type, to allow for open floor-space when needed. Teaching with visual objects for demonstration can form an important part in the general school design. The large outdoor concrete globe at Suresnes is an excellent example of this method of teaching. In all these points proportion, colour, and detail are as important as in any other part of the building, as they are most closely associated with human needs and play a large part in the physical or mental comfort of the inmates.

The general atmosphere can be dictated by the use of colour and texture. The dreary chocolate so often used is very depressing; the argument for its use is that it never shows the dirt, and for this reason it is never cleaned, and consequently gets more dirty than a light colour that needs constant attention.

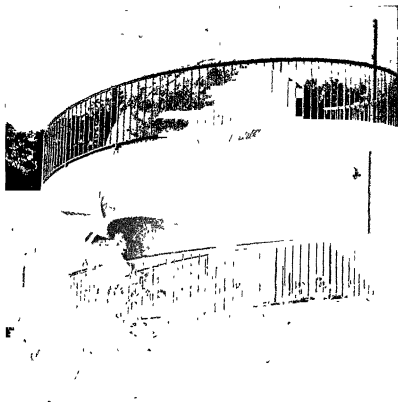
A stimulating atmosphere is achieved in direct proportion to the lightness and clarity of the colours used. White, and pure clean yellows, greens, and blues are the most exciting, while an atmosphere of rest can be got by soft, warm body colours such as greyed greens, blues, yellows, or reds, but, going down the scale still further, a depressing effect is

made by a predominance of heavy browns and colourless dark greys

When clear colours are used, great care must be taken to apply them only to the right surface a clear yellow on a very hard plaster gives a totally different effect from the same colour on a soft lime plaster In the first case the atmosphere is unsympathetic, hard, and reflective to sound, light, and mental images, while in the case of the soft body colours there is sufficient weight to cover almost any surface to give a warm appearance Few could feel "at home" in a drawing-room which was completely surfaced with ivory glazed tiles, oil-cloth curtains, and steel furniture, but exactly the same colours in soft plaster, good material and wood would allow immediately for relaxation

This relation of colour and texture is very important in schools corridors and cloak-rooms should be very bright and cheerful and their colour can be on a hard surface, whereas class-rooms should have stimulating light colours on a soft surface. Each room should have a different colour-scheme in order to avoid monotony The library and staff rooms are places where soft tones can be used to advantage. To increase the possible variety, very pleasing effects can be obtained by treating one wall of each room in a different tone.

The standard of pictures generally supplied to schools is very low, and has an entirely negative effect, they often consist of sentimental water-colours, which at one time were the only type that could be obtained at a reasonable price, but to-day there are large numbers of excellent reproductions



CONCRETE GLOBE AT SURESNES, FRANCE
ARCHITECTS BEAUCLOIN AND LODS

ARCHITECTURE IN SCHOOL BUILDINGS

of painters, such as Van Gogh and Matisse, who use exciting colours that would give a positive contribution to the general education. There are also galleries who are collaborating with contemporary artists in producing lithographs drawn especially for schools. This is an excellent method of obtaining good pictures and could well be extended. There could be central picture libraries from which schools could hire pictures for short periods in order to present the children with a constant change and a wide range of good contemporary and traditional art. The high standard of many modern posters opens up many possibilities for their use in schools, and their price would enable them to be renewed at short intervals.

Widely different needs, when translated into architectural form, will often result in a similar expression. Maintenance of physical and mental health, light, air, flexibility and a stimulating free atmosphere have been shown to depend on an open plan. All schools that are designed to include these needs would then have this type of plan in common. The planning of the structure and the shape of the plan itself will depend on the educational system and any limitation of the site.

The different use of the individual units of the building as put to in the various systems is seen by comparing the Ralph Waldo Emerson Junior High School at California, designed by S. Neutra, with the average high school in England. The latter consist mainly of an administrative block, assembly hall, class-rooms, art room, library, laboratories, workshops, gymnasium, medical inspection

room, and playgrounds. In this American school, on the other hand, most of these units are subdivided to allow for specialized branches of each subject. Mental and physical health form part of the school curriculum and are allowed for in the plan, while physical training is carried beyond the stage of ordinary gymnastic exercises. The actual schedule of accommodation included in the plan is an administrative block with mental and personality testing laboratory, practical business training section, indoor and outdoor activity class-rooms, art department, physical education unit with play-yards, baths, etc., and physical culture office, academic class-rooms, music department with open-air terrace, teachers' rest and work rooms, seminary and text-book rooms, library, medical room, physical examination room, doctor's offices, physical culture practice and corrective exercise and relaxation room.

The stress laid on mental and physical development, as opposed to corrective training, is shown on the general design, and it would be impossible to carry out this work to such a high standard in most English schools owing to limitations imposed by the buildings. This new departure in education can only be satisfactorily achieved by the inclusion of the necessary clinics, and their position and design in turn can only be determined by the architect's collaboration with the doctors and psychologists responsible for their use.

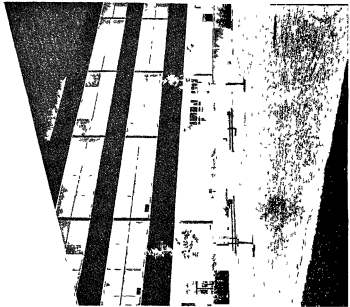
A building is not an isolated problem, but must be related to its immediate surroundings, and in the case of a school this relation is particularly important.

The past provisions that architects have made for gardens have been spoilt within a few years by neglect, but to-day the increasing importance given to practical work makes gardening part of the general school curriculum. School gardens must be more than plots divided into regular rectangles, they should be naturally distributed in free shapes around and even within the building if the plan is sufficiently open to allow for this to be done. In the case of junior schools it is important that these gardens should form part of the playgrounds. Lawns, grass banks, natural earth, and sand make a far more pleasing setting for the vivid imagination of the child than the hard, dreary asphalt areas usually supplied, where these hard playgrounds are needed they can be made to look gay and cheerful by the use of coloured concrete. In the planning of these surroundings spaciousness, intimacy, formality, and freedom must all be closely related to the lines and surfaces of the building.

The direct social connection of the school is best shown in the country villages where the school building is often regarded as a social and educational centre for the whole community. These village colleges set a new architectural problem. Not only is the school used as a unit by children but also by adults from outside. The assembly hall becomes the village hall and the library is used by all, with the result that these must be planned to meet many extra demands. For example they can no longer be placed in the centre of the school circulation but must comprise an individual unit with direct access to the main entrance and cloak-rooms.

EDUCATING FOR DEMOCRACY

The latest figures for school attendance in England and Wales show that out of 6,036,578 children registered, 5,945,855 were at State grant-aided schools. The increased grants given by the Board of Education for new buildings suggests that money spent in this way is a sound investment. The actual building work is in the hands of the local authorities, and if they fully realize the importance which the building plays in the development of the mind and body as well as the teaching, the demand for good school buildings will become a demand for good school architecture which is based on the logical translation of every need into well-proportioned and detailed buildings full of colour, light, and air, set in surroundings of gardens, shrubs, and trees—buildings that are stimulating and alive, sympathetic to work in and a harmonious contribution to the general culture and amenity of the district they serve.



VILLE JUIF, FRANCE ARCHITECT ANDRE LURÇAT

CHAPTER XII

THE TEACHING OF THE MOTHER TONGUE AND THE FORMATION OF THE CITIZEN

THE title of the present book is *Educating for Democracy*. In a work called *The Writing of English*, published thirty years ago, I wrote the following passages, which may well serve as an introduction to my subject.

In the teaching of the mother tongue, properly conceived, we have the most powerful instrument in the whole range of intellectual education, as it has been in this country the most neglected.

The Socratic question and answer (and the textbook) lead the pupil, as it were, by the hand. In the silent dialogue of the person trying to express himself in writing, in the advance of the imagination and the making sure of each step by question and answer of the intellectual conscience, we have the method of the master put into use by the pupil himself.

This subtle and delicate process, half-conscious, half-unconscious, I take to be the essential process of all composition. It is, I believe, capable of influencing more deeply than any other the whole working of the adolescent mind for good or for evil. A striking example of its deforming power when misapplied is shown by the influence on style of examinations. [I shall touch on this point again

later] But the radical defect, as it appears to me, of nearly all methods of teaching composition, from the earliest days to our own, lies in this—that for the exact fitting of the written words to an ideal conceived by the pupil, the teacher is apt to substitute an imperfect matching of the written production with a literary model; quite oblivious that the model, admirable as it might have been for its purpose, had in fact a purpose altogether different from that of the schoolboy exercise. Cicero in ancient times, Burke in modern, spoke or wrote in dead earnest to bring home a particular conviction to a particular audience, the schoolboy only tries feebly to imitate a Cicero or a Burke, he has no object and no audience in view. To ask a pupil to imitate the results of a great master without providing him with the definite stimulus and aim which made those results possible, is indeed to set him to make bricks without straw. And so it has gone on for centuries. Hence the futilities of the rhetoric denounced by Locke [who killed the teaching of rhetoric in England], the futilities still living in that ridiculous imitation of great writing, the purposeless school-essay, set in almost every English school, asked for at almost every examination in English.

The question of the teaching of the mother tongue is part of an even wider question, for the whole process of education, intellectual and moral, involves a delicate adjustment in a human society of the necessities for acting like others and those for acting differently from others.

The problem of the teaching of the mother tongue is indissolubly bound up with questions of social conditions, national temperament, and national requirements.

Before I end this chapter I shall bring forward evidence to show that our present system of teaching the mother tongue fails to introduce that minimum of competent literacy which we have the right to expect from our schools. But I want first to sketch

here the method of class teaching in which I have tried, not without success, to put my principles into practice.

One of the fundamental principles is that in writing in real life one does not simply "write", one writes for a particular audience, and with a particular object in view. I have found it useful to divide all written compositions into two categories—the "record", something written for oneself, and the "message", something written for someone else,—it may be to interest, to amuse, to instruct, to persuade, to direct.¹ In the very early stages this distinction cannot be brought into play. When a child begins to write, the formula which inspires the essay, "Write anything about something for anybody", in which the something (a plant, a game, a doll) is the only thing defined, is not absurd, as it becomes later. The object at this stage is to get the pupil to write sentences about some particular topic. A child learning to swim begins by "splashing about"; you are satisfied if he can keep himself afloat. But he very soon learns to swim from one point to another. And if the child of 9 or 10 is taught reasonably how to write English, he soon learns to write for a definite audience and with a definite object. The average child of from 10 to 13, though he may be totally ignorant of the rules of grammar, has the power of saying accurately what he needs or wants to say in the language in which he thinks. This is the all-important formative age, and it is at this age that you give him exercises in story-writing (on which, for reasons which will appear, I lay the

¹ See *Record or Message* (Oxford University Press)

greatest stress), in dialogue, in the description of real things—from a landscape, or a town, to a scientific experiment which he has actually seen performed before him slowly, but which has not been described by the teacher. These are all synthetic exercises. I shall deal with analytic ones presently.

I now come to another fundamental point in class teaching. I read a number of compositions one by one to the class, and ask first of all the author, and then the class, to criticize the composition as a whole, its plan, and ask of the author whether he thinks he has *succeeded* or *failed* in achieving his defined object. I ask the same question of the class; and finally we discuss details. But I make it clear that, apart from questions of accuracy or inaccuracy (I leave the questions of grammar as far as possible to another kind of lesson—they are irrelevant to the main purpose of a composition lesson), the author himself is to be the final judge of his success or failure. He knows what the class thinks and what the teacher thinks. But he knows better than either class or teacher what he has tried to do. He must be made to feel that he has a right to an opinion of his own on the way he has done it. This is the crucial point in the whole process. The teacher who here tries to impose his views on the pupil defeats what ought to be his aim, to stimulate simultaneously both the creative and the critical faculty. It is absurd to ask a pupil to criticize a classic at this stage. It is not absurd to encourage him to criticize his own creation, and by this I mean to appreciate its strong points no less than its weak ones.

THE TEACHING OF THE MOTHER TONGUE

Now let me summarize the chief points in this method.

(1) You find that the average English child of from 10 to 13 can speak easily, forcibly, correctly, when he wants to say something. In order to develop his power of speaking and writing easily, forcibly, correctly, you make him want to say something.

(2) You make him want to say something of his own, something that he feels to be, and that is, worth saying, something on which he has a right to have an opinion. He is not repeating to you what you know already. He is observing external nature and his own sensations and recording his observations, and so doing in a modest way "original work"

(3) In writing he is not merely writing vaguely as our schoolboys at present write essays on lofty themes for the world in general; he is writing for a particular audience and with a particular object in view. But he should not, like a Steele or an Addison, try to improve the morals and manners of his time.

(4) In order to achieve his object, he must order his thoughts on a definite plan and present them clearly. The object in view soon makes the school-boy agree, with Pascal and Buffon, that orderly thinking is the very basis of style.

(5) His writing stimulates, as nothing else in the school curriculum can, the imagination of real things (to be sharply distinguished from the fairy story imagination); the picturing of consequences that forms the greater part of what we call "common

sense", and that serves as a guide for most of our actions in daily life.

(6) In order to write consistently and with an object strictly kept in view, a continuity of attention is demanded such as is demanded in no other subject but mathematics (or music, when really well taught). Continuous exercise of the attention in reality implies supreme exercise of the will. Certainly concentration is one of the hardest lessons for a child to learn.

(7) Besides this power of concentration there is called into play a power which, borrowing from the science of the oculist, I may term the power of *mental accommodation*, the power of changing one's mental focus, of seeing a composition first as a whole, in plan, and then in detail. "He that cannot contract the sight of his mind," says Bacon, "as well as disperse and dilate it, wanteth a great faculty."

(8) Finally—and I regard this as of fundamental importance—you make each child himself the judge of what he has done. He learns to work to satisfy not his teacher but himself. It is the business of the teacher and of the class to make the standard of satisfaction a high one. This is an ideal absolutely opposed to mediaeval ideas. Authority has a place, and must have a large place in education; its place has been hitherto, I believe, too large a one in English intellectual education for individual efficiency. In this particular work it is the child's own judgment that must be made supreme. His original effort to produce is to be controlled and guided by self-criticism. The aim of the teacher

is to cultivate what I have called the *intellectual conscience*.¹

In the limited space at my disposal I cannot describe my method in greater detail or give the actual illustrations necessary perhaps to convince. But two things I must add

We often hear people talk vaguely of "encouraging originality in children". But one can only be original in dealing with material of which one has a technical mastery. To be "original" in history or geography or systematic botany means to make mistakes. Now the one material, other than that of an art or a craft, over which the average child possesses a technical mastery at the age of about 10 or 12 is the mother tongue, which he has used constantly for, say, eight or ten years. It is a material which he can employ in an original way, and the use of which demands the employment of a great part of his capacity for seeing, feeling, reflecting, and judging, and his artistic sensibility.

My second observation is this. Once a child has learnt to judge his own literary production from the point of view of common sense, he is not slow to apply his judgment to the productions of others,—first of all to those of his schoolfellows, and then to the books and newspapers that he reads. I can say this from actual experience. The cultivation of the intellectual conscience goes far to confer on the individual immunity from propaganda, which is the greatest of all dangers to the democratic system. The method learnt at school will not be forgotten. It will find full exercise and use in later

¹ See *The Writing of English* (Oxford University Press), pp 61-63

life. I suggest that it is the greatest safeguard for democracy that a nation can possess

Simultaneously with creative work, such as I have described, the pupils should be trained in analytical exercises, for instance in making summaries of long articles or passages from books, reduced say to one-sixth of their original length so as to avoid mere paraphrase or quotation, and with the instruction that these summaries are to be written, not like an examination paper (the worst of exercises in exposition, since its aim is to tell a person, the examiner, what he already knows), but as if they were intended for a person who has no time to read the original. One of the best of all analytical exercises is to make a comparison of different views of the same topic, such as those expressed in two leading articles written in newspapers which appeal to different sections of the public. Such a comparison forms an admirable subject for impartial analysis with pupils of 15 or 16 (and the cost of the material is trifling). In all such exercises the critical faculties of the pupils are again stimulated, they get mental perspective; they learn to distinguish what is vital and important in a written document from what is merely accessory.

I have dealt first with principles in the teaching of the mother tongue. The main fault of the present system of teaching the mother tongue is a concentration on details—which might at least be supposed to produce some practical result. In the book of mine from which I have quoted I produced quotations from many sources to support one of my opening statements, "The English boy cannot write English." I

believe there has been an advance in this matter during the last thirty years—but not a very great advance

The Government Investigators of the School Certificate examination in 1931 asked the amazing question, “Should a reasonable command of English be required as a condition of obtaining a certificate?” and were unable to screw themselves up to the point of giving a blunt and simple affirmative in reply. The only interpretation of their reticence is that such a requirement would involve the rejection of too large a proportion of the candidates

A distinguished soldier expressed himself more plainly. “Many officers to-day cannot even express themselves clearly in the simplest language, let alone with any style or distinction” This was said by Field-Marshal Sir Philip Chetwode at Quetta in 1935. Could there be any more severe criticism of the English taught at our public schools, which furnish officers to our army?

That distinguished scholar, Mr Dover Wilson, formerly Professor of Education in the University of London and now Regius Professor of English Literature in the University of Edinburgh, declared that his post-graduate students in Education in the University of London, several hundred in number and drawn from all the British universities, were admirable material and the fine flower of one branch of our education, but that the majority were unable to express themselves on paper with point and coherence. His statement was made in an address given to young schoolmasters at Harrow¹

¹ Reprinted in *Education of To-day* (Cambridge University Press, 1935), pp 64-65

Here is the blunt expression of opinion of the managing-director of one of the largest engineering firms in the North of England on the report of a young engineer on approbation : " I have read your report ; I am sorry to say that as a report I don't think it is good enough. It is quite clear that you have not learnt the art of presenting your thoughts in written form. It must, I think, be the fault of [name of school] and [name of university], both of which ought to be kicked "

I may add from my personal experience that I have known boys of scholarship standard who at the age of 16 or 17 were incapable of writing a decent letter in English. They had never learnt to write letters, but only " essays " Among the English schools there are, of course, exceptions to the common rule, where English is really well taught, the pity of it is that nearly all the schools think that they belong to the class of exceptions One headmaster, however, told me recently that he was aware of the defects of the English teaching, but he thought that all would come right later I think that what I have said proves that it does not There is nothing to justify that comfortable belief The people who learn to write in England to-day are mainly those who have, like Johnson, to earn their living by writing.

I return to my main thesis It is of the essence of a democracy to be able to combine that measure of discipline which is necessary for stability with the measure of freedom both of thought and of action necessary for progress. The mobilization of thought under a dictatorship may mean material strength for a time, I suggest that it must ultimately mean

the sterility and dry rot of intellectual decadence.

Hitler, who has proved (up to the present) that he has an exceptional knowledge of the psychology of his own people, divides them into (1) those who believe what they read; (2) those who no longer believe in anything, (3) those with good heads, who test what they read critically and then form their own judgment on it.

The first group is by far the greatest, according to Hitler, and the one for whom newspapers must be written; the last group is by far the smallest. The press must therefore be controlled by government so as to keep the majority "right-thinking". The teachers and pupils in the schools must, of course, also be kept in the right groove of official doctrine.

Contrast this policy with that of Lord Baldwin, expressed in an address to the London Teachers' Association¹. Speaking to those teachers he said: "It is not for you fortunately to undertake the political education of the children, but it is for you to see that if they have to hear of these things they hear both sides, and they hear them dispassionately; because you cannot prostitute your position to sectarian ends. *The primary concern of those who have such a sacred trust as you have is the unfolding of the child's personality and not the victory of party*"

I do not exaggerate when I say that I believe that the political future of this country may depend largely on the teachers who train their pupils in the use of the mother tongue in our schools.

¹ The address was delivered in 1924, and is reprinted in the collection entitled *On England* (See Penguin edition, 1937, pp 162-168)

CHAPTER XIII

AESTHETICS AND MODERN EDUCATION

IF we wish to estimate the stage of culture reached by a primitive people we examine their arts and crafts. Their artistic products give us the best evidence, and often the only evidence, of their intellectual and spiritual achievements. And indeed it is difficult to conceive a state of civilization in which the production of things of beauty, as well as things of utility, is not a vital and persistent concern. It follows that whatever our views on education—whether we regard it as a means of perfecting a man's individual powers, or whether we regard it as a means of putting a person in possession of his social inheritance of culture—we are compelled to accept a training in art as an essential part of a liberal education.

Before we can determine the place of art in a scheme of studies we must have a fairly definite idea of what art is, and a clear conception of the nature and scope of the aesthetic activities of mankind. And if, for the sake of simplicity, I mainly confine myself to pictorial art, it must be understood that the same principles apply *mutatis mutandis* to the other artistic fields, such as archi-

itecture, music, literature, and the drama, on which I touch more briefly.

A young girl who had just seen an exhibition of modern pictures remarked to me, quite simply and naively, that she preferred beauty to art. In the last century such a remark would have been impossible, no one would have thought of opposing the two things, art and beauty. He would have believed them to be coincident. It would have been assumed that beauty was the very essence of the artist's eternal quest, that it was a quality which he had first to discover (or invent) and then to express. And he made the discovery in nature. Modern schools of painting, of music, and of poetry, have, however, forced their adherents to choose between two alternative theories: that art has nothing to do with beauty, or that beauty in art and beauty in nature are two entirely different things.

To the plain man it is a face, a flower, or a landscape that is beautiful, and pictures of them are beautiful merely so far as they can capture the charm of the originals. Pictures are in fact imitative and derivative. Certain exponents of the modern spirit reverse all this. To them it is art that is beautiful, nature being essentially neutral and only recognized as beautiful after artists have rendered mankind sensitive to that quality. This view is held by P. G. Konody, who says: ¹ "The function of art is the creation of beauty. Indeed, it may be said that there is no beauty outside art, or, to be exact, no beauty that has not been revealed

¹ Article on "Art" in the Fourteenth Edition of the *Encyclopaedia Britannica*

by art . Beauty thus resolves itself into objectified aesthetic emotion " In other words, instead of a picture being considered beautiful because it is like nature, nature is considered beautiful because it is like a picture. And Whistler's joke about nature imitating art is not merely a jest ; it has a substantial backing in history and in psychology.

It is pretty certain that the ancients saw no beauty in the inanimate world. The Greeks and Romans cared nothing for scenery . Indeed it is only within the last century or two that trees have meant anything but timber, and that a landscape has been considered worth looking at. To quote Konody once more . " Mountains only became beautiful in the eyes of mankind after Giotto and his followers had introduced them into their pictures to replace the traditional gold backgrounds of early mediaeval art . Art has then once more fulfilled its educational mission "

Visitors from the Dominions are always vastly impressed by the beauty of the English landscape " England ", they declare, " is one huge garden." True , but it was not always so—nor, if its despoilers continue to despoil, will it always be so . Nature did not make England a garden , she made her a forest and a swamp . Nor did the English yeoman care one jot for the comeliness of his plot of land, so long as it yielded corn for his granary and pasture for his cattle . The English countryside that we know and love was the creation of landscape gardeners. The movement is supposed to have started in 1664,¹ when John Evelyn, the diarist,

¹ C. E. M. Joad, *A Charter for Ramblers*, chap. III

published *Sylva*, which expounded the principles and practice of landscape making. The landscape gardener was an artist who worked on a gigantic scale, taking a large stretch of country as his canvas, and fields, copses, streams, and hills as his materials. He and his imitators have made the face of England as gracious and attractive as a beautiful picture. As for the wild parts of the country, the mountains and the moors, they were completely shunned by sightseers until Turner and the Lake Poets disclosed their beauty.

The attempts to dichotomize beauty by distinguishing between artistic beauty and natural beauty do not seem to have been wholly successful. Mr. Clive Bell in his book on art has tried to establish the uniqueness of the aesthetic quality of a work of art. He calls it "significant form", but in so doing he seems to be running the old firm under a new name. "Significant form" turns out to be either another name for beauty, or a label for a certain obscure aspect of beauty.

There are two distinct theories regarding the nature of beauty. One is that beauty is objective and absolute; the other that it is subjective and relative. The former derives from Plato who taught that beauty was not a modification of the mind of man but a quality inherent in the external world of "ideas" or "forms"—the real order of existence which stands behind the imperfect and counterfeit world that manifests itself to our senses. It is, according to him, the only glimpse we get of the perfect world.

The Platonic theory appears in modern guise in

Miss Margaret Bulley's stimulating book, *Art and Understanding*. Miss Bulley contends that art is in its very nature spiritual, that it reveals spiritual harmony (which is beauty) and that beauty reflects a thought or idea in the one universal mind. The appeal which a picture makes to the beholder is either spiritual or material, if spiritual the picture is a work of art, if material it is not. There is, in fact, no such thing as good art or bad art; there is only art and counterfeit art.

At the opposite pole stands Leo Tolstoy, who contends¹ that all attempts to define beauty have failed, and that art, like speech, being a form of human intercourse is necessarily subjective and personal. A work of art, whether it be a picture, a poem, or a symphony, is a means by which one human being can transmit his feelings to another. It is a good piece of work if he succeeds in the transmission; a bad piece of work if he fails. But transmission is not the only criterion of value. The quality of the feelings transmitted has also to be taken into account. If those feelings serve the nobler purposes of life the art is good, if they foster pride, lust, and selfish pleasures it is bad and depraved.

When there are conflicting views on the nature and purpose of art it by no means follows that one view is right and all the others wrong. All may be right so far as they go. They are the truth, but not the whole truth. Art, in fact, has many facets, all equally genuine if not equally important. It may be true, for instance (indeed it probably *is* true), that beauty is an intrinsic quality in a work of art.

¹ Leo Tolstoy, *What is Art?* (The Scott Library)

The variety of opinions regarding it does not disprove the theory, for that variety may readily be accounted for by the differences of the judges in sensibility and knowledge. It is noticeable that as aesthetic sensibility and aesthetic culture increase, there is, in spite of serious fluctuations, a gradual approach to unanimity. We may assume that the beauty of the object is everlastingly the same, and that it is the apprehension of that beauty that varies.

When art is used as a means of liberal education its expressive aspect assumes vital importance. This is specially true when the pupil is very young, for to him art serves all the purposes of a language—a channel for the utterance of his thoughts and his feelings. And just as in verbal expression he is not only communicating his ideas to others but is in the very process moulding and modifying those ideas and making them more clear, definite and vivid to himself, so in using his pencil or his brush he is also doing two things: he is telling others and he is telling himself. The spontaneous art of a young child is never imitative. He does not try to copy what is before his eyes. He sees no point in doing that, for the objects are there in all their perceptual vividness. He cannot make them clearer to himself than by looking at them, nor to his companion than by pointing to them. But his inner thoughts and feelings, his images, concepts, and emotions—they are by no means as clear and orderly as he could wish. These airy nothings need to be given a local habitation and a shape. So when left to draw what he likes he generally draws what is absent, not what is present. When at school he draws his father or his

mother, when at home his teacher or the policeman round the corner. If he happens to draw what is present, he gives it one fleeting glance and then looks at it no more. The purpose of the glance is not information but recognition. It starts the process of emptying his mind—objectifying its contents for his own joy and profit; and, as he hopes, for the joy and profit of others. It is "sur-realism" with a difference. And in its way it is as valuable an educational exercise as oral or written composition.

Indeed it *is* composition—the putting-together of elements to form an organized whole, though much of the putting-together takes place subconsciously. Within the last decade the art instruction of young children in London and in other parts of England has, under the inspiration and guidance of Miss Marion Richardson, embarked on a new and lively adventure. Abandoning the old drawing from nature and from the model with the pencil or in transparent water-colours, the pupils use poster-colours and draw from a mind picture on large sheets of cheap paper with hog-hair brushes. The mind picture—the inner vision—is the foundation of the final product, and that final product is as a rule extraordinarily good, indicating that the power of artistic creation is far more widely spread among children than is commonly supposed. They often produce pictures which are peculiarly vital and attractive, and possess the unity, balance, and rhythm characteristic of a true work of art.¹

¹ See *Picture-Making by Children*, by R. R. Tomlinson (The Studio Limited)

The fact that children spontaneously express themselves by drawing and modelling, and in so doing often reveal the content of the unconscious, has proved of considerable value to the psychiatrist. The artistic efforts of a difficult or neurotic child often afford a clue to the cause of the mischief, and suggest the direction in which a remedy lies.

The artist has long ago definitely discarded the theory that the function of art is to reproduce nature ; that the aim of the artist should be to represent, as faithfully as his skill and his materials will permit, the appearance of objects in the material world. The camera has given a death blow to that theory. Not that it was ever seriously held by the discerning. In the East it had never gained a foothold , and even in Europe it had only found lodgment in the minds of the populace and of painters who could not paint. It is now realized that the artist may interpret nature, or may reveal the spirit of nature, or may use nature as his raw material, but he must not merely mirror nature. Verisimilitude is not art. So much is now everywhere conceded.

And yet verisimilitude cannot be wholly ignored. For art is not merely expression, it is also communication , and communication is only possible through a series of symbols which have virtually the same meaning to the two parties concerned, the communicator and the communicatee. And the symbols of the pictorial artist are the sights of nature ; appearances are the words of his language. That is what makes the language of art understood the whole world over. When, however, these appearances become so abstract that they cease to recall

the concrete experiences of daily life, they became ambiguous in meaning ; often indeed unintelligible. They fail to deliver their message. It follows that the more pictorial art departs from nature the more restricted becomes its range of appeal. It becomes more and more inarticulate.

This, indeed, is the main reason for the unpopularity of exhibitions of modern art. The artist does not use the universal tongue ; he uses the language of a coterie, or even, in extreme cases, a private language of his own. He is an expressionist who fails to transmit his message to the public at large. Hence the point of these lines from the pen of the late Sir Walter Raleigh of Oxford :

The artist uses honest paint
To represent things as they ain't,
Then asks for money for the time
It took to perpetrate the crime

In point of fact he doesn't get the money.

We must distinguish between what is essential to a work of art and what is accessory. Design is essential, unity in variety is essential ; so are balance, rhythm, and harmony¹. But perspective is not essential, nor indeed is the exact representation of shape and tone. These can be dispensed with. And yet, the essentials being secured, a picture is none the worse for being recognizably like nature, none the worse for being true in perspective and true in tone ; none the worse even (this will horrify the modern purist) for telling a story. In fact I may venture to assert that it is all the better for these

¹ For an analysis of the intellectual factors in a work of art, see *Creative Mind* by C. Spearman

adventitious merits, provided there is no sacrifice of essentials

The justification of contortion in modern pictures is that essentials are secured by the sacrifice of non-essentials. What is known as strong drawing, for instance, is better than faithful drawing because strong drawing brings out an idea by emphasizing the lines that express it, while faithful drawing remains as dumb as nature herself. The weird perspective of young children finds support in the psychology of seeing. As Dr. Thouless has shown in an interesting series of experiments,¹ what we actually see is a compromise between our concepts and our percepts. A dinner-plate viewed obliquely is represented by a young child as a circle which he conceives to be its real shape, by an accomplished artist with a knowledge of perspective it is represented as a sort of ellipse or flattened circle; but by anybody else it is represented by a figure which is a compromise between the two. It is not so round as the child's circle, nor so elongated as the ellipse which the laws of perspective require. It is drawn like that because, in the mind's eye, it is seen like that

Should perspective be taught in our schools? Certainly, and all the other devices of the painter's craft. We can at least say of perspective what we cannot say of the higher aesthetic qualities—it can be easily taught. For, being a science rather than an art, it can be reduced to definite rules applicable to the world of visual perception. So with other

¹ "Phenomenal Regression to the Real Object," *Brit. Jour. Psych.*, vol. xxi, pt. 4, vol. xxii, pts. 1 and 3

technical devices. So long as it is not given too early, and not allowed to check the genuine creative instinct, but rather to foster it and keep it alive and vigorous, instruction in technique is a valuable auxiliary part of an artistic training. It is a matter of common knowledge that a young child begins to lose his spontaneous joy in drawing about the age of 9 or 10. Becoming critical of his own efforts he tends to lose heart. He feels the need for a better technique; and that is precisely the time to give it him.

One of the modern schools of painting, the surrealist school, regards art as essentially an out-pouring of the unconscious. Surrealist pictures are such stuff as dreams¹ are made of. Logic and coherence has no place in them. Their symbolism is the symbolism of dreams, and what it means no man knows unless he is a psycho-analyst, and even he can only guess. And since the contents of each man's unconscious are private and personal they are little likely to interest anybody except the person who has spilt them out on the canvas. It is another case of expression without transmission.

One may readily admit the connection between art and the unconscious without subscribing to the surrealist's version of the unconscious. What the unconscious actually is, how far it extends, and what it contains nobody really knows. It is the darkest of dark continents. Those who claim to have explored it bring back contradictory reports. We do not even know whether the unconscious is to each man a private boggy-hole or a universal treasure-

¹ Or nightmares

house from which proceed all good things, including the promptings of genius, the vision of the mystic, and the inspiration of the saint. Here again we are faced, not with a choice between two alternatives, but with two partial presentations both of which might reasonably be accepted as true

There can be no greater mistake than to believe that art concerns artists only, and that it should be confined to museums and picture galleries. Art is of universal importance and significance. It is co-extensive with life itself. There is no department of human activity in which the awakening and satisfying of aesthetic taste will not yield an appreciable increase of human happiness. The more cultured a man is, the more conscious will he be of the beauty or ugliness of his surroundings. And he realizes that by his own discernment and appraisal he can extend the realm of the beautiful and curtail the realm of the ugly. For human design is seen on every hand. The house he lives in, the clothes he wears, the chair he sits on, the plate he eats from—everything in the home, in the street, in the market-place is seen to be designed by a human being like himself. Even the countryside is seen to be in a large measure the work of man's hands. To produce a citizen beauty-conscious in this broad way should be one of the cardinal aims of modern education. And one way of producing him is to give him a training in the basic handicrafts of the human race.

By the basic handicrafts I mean those activities which primitive man pursued in his attempt to control his material environment. The arts of

husbandry, architecture, weaving, woodwork, and metalwork, born of his need for food, clothing and shelter, just as language was born of his desire to communicate with his fellows, soon transcended their immediate utilitarian value and became educative forces of steadily increasing potency. Around them gradually accumulated a culture and a lore no less important of their kind than those which centred round the faculty of speech. And just as handicraft and literature were co-ordinate activities in the history of the race, so should they be co-ordinate activities in the curriculum of the school. They have not been so in the past. Both in schools for the rich and in schools for the poor the pursuit of letters has so dominated the curriculum that the handicrafts have been left out in the cold. Towards the close of last century, however, handicrafts of a simple kind have been taken in, first in schools for the very young in the form of kindergarten occupations, then in schools for older scholars in the form of woodwork, metalwork, and practical domestic science. The public and secondary schools were the last to yield to this new influence. Now they too have their work-rooms as well as their class-rooms, their chisels and their lathes as well as their pens, pencils, and books.

In the early stages school handicrafts suffered from the serious defect of severance from the business of living. The work in the school bore little relation to the work out of school, little relation to the traditional occupations of mankind. It was formal and disciplinary. It was sometimes

called *manual training*, sometimes *hand and eye training*. Certain barren exercises were devised whose avowed aim was to bring the hand and eye into proper co-ordination. Cardboard was the favourite material, the scissors and the knife the favourite tools. Even woodwork, which was so readily subservient to use and beauty, was fettered by the claims of technique and by the desire to foster mere mechanical skill. In the partnership of head, hand, and heart, the hand had too much to say, the head too little, and the heart nothing at all.

Then again there was a misconception of the relationship between art and craft. It was assumed that a thing had first to be made useful, and then to be made beautiful. And it was to be made beautiful by decorating it. Its design was adventitious and extrinsic. Whereas nowadays a robuster creed is almost universally held—the creed that the design of an object resides in its very structure, and its beauty in the relationship of its parts and its suitability for the use to which it has to be put.

The fact that machinery has largely superseded the traditional crafts does not in any way rob them of their cultural value. The hand still has its place even in the most mechanical of modern industries. It is still the initial creative agent. No machine can make a machine. No machine can make an original model. Even if it could, even if the modern world had no use for the human hand, the cult of the hand would still have its educational claims. For there would still be need for entering into spiritual sympathy with the past

achievements of the race, and for rethinking the thoughts of our ancestors.

The revival of craftsmanship which began with the Great Exhibition of 1851, and which received much impetus from the precept and practice of William Morris, has given rise to a number of slogans, one of which is "fitness for purpose" A tool, a weapon, a utensil, an article of furniture—any piece of craft work—should be so designed as to fulfil well its proper function The article may be of agreeable colour, it may be well proportioned and of comely shape, it may satisfy all the canons of decorative art, and yet if it is not fitted for its own proper purpose, it is a bad piece of work A jug, for instance, is intended to hold liquid, generally for human consumption If, therefore, it does not stand steadily on its base, or if the handle is so small or so ill-shaped as to be of little use as a handle, or if the lip is so curved that the jug does not pour properly, or if the mouth is so narrow that the inside cannot be easily cleaned, or if the superimposed ornament harbours dust and dirt, the jug is devoid of its proper juggish virtues, and no other qualities, such as quaintness or prettiness, can compensate for the defect. The design is bad, the ornament is meretricious

When, in fact, a thing is well fitted for its purpose, it is generally found that its proportions please the eye and satisfy the mind If it works well it looks well Compare the early motor-car with the streamlined model of to-day The early car began badly, it began by imitating the horse coach or horse wagon Simply because the coachman sat high up (he did

it to control the horses), the chauffeur also sat high up, even though he had no horses to control. Because the slow-going horse coach had seats exposed to the wind (tolerable enough in those days) the fast-going motor-car had also seats exposed to the wind, much to the discomfort of the passengers. All that is now remedied. The modern motor-car is fashioned for its own function, not for the function of another vehicle. Functionalism, as it is called, has come into its own. It is functionalism that gives us our furniture made of steel tubing and our sun-trap houses made of concrete—all designed to secure health, comfort, and economy of labour, rather than to secure either beauty, in the popular sense, or traditional correctness.

Such is the doctrine of functionalism—a doctrine which has had an enormous influence on modern architecture and applied art; and on the whole an influence for good. Yet as an aesthetic theory it is singularly sterile. It leaves most of the beauty of the world unexplained and sets up a criterion which is at best adventitious and accessory.

Another slogan is "feeling for the material." It implies that a craftsman should respect the material in which he works. He should not carve in wood as though he were carving in marble, nor should he try to weave with cane as he would weave with silk. The painter in water-colours should not try to make his picture look like an oil-painting, nor should the builder make his brick look like stone, or his stone look like wood. Ferro-concrete calls for an architecture of its own and should not borrow its design from structures of brick and mortar.

Respect for the material should be extended to respect for the machine. The principle is the same. The rivals now are not different materials but the machine on the one part and the hand on the other. Each has its idiosyncrasies. While it is true that the hand can do things which the machine cannot do, it is equally true that the machine can do what the hand cannot do. And a design well suited for hand-made goods may be ill suited for machine-made goods. Machines are not fitted for making surface ornament. The merit of a machine-made article is in its proportions and its contour. Its beauty is not in its skin but in its bones.

Although the pursuit of letters has absorbed the energies of our schools in the past it is the intellectual side, not the aesthetic side, that has received the bulk of the attention. The classics were things to be studied—to be parsed, analysed, and construed—not things to be enjoyed. It was indeed difficult to enjoy them, for the majority of the pupils never got beyond the stage of grammar, dictionary, and painful translation. And even when the centre of gravity was shifted from Latin to English, the older methods clung to the new pursuit. There was still a plethora of philology and grammar—an abundant dissection of cold print, but a pitiful lack of inspiration and fire.

Nor has the drama fared much better. In the public schools it began well and then fell into a decline. The English drama began in the church and in the grammar schools of the Tudor period. What is supposed to be the oldest English comedy, *Ralph Roister Doister*, was written by a school-master and emanated from Westminster School.

Even in Shakespeare's day the troupes of boy players, to which reference is made in *Hamlet* and elsewhere, were common enough and competent enough to become serious rivals of the professional companies. It was only at Westminster that the tradition of the drama was kept up, and even there only in the form of the annual Latin play. Recently, however, there has been a revival, and to-day dramatization in some form or other has found a foothold in nearly every type of English school.

It is doubtful whether there ever was a time in the history of education in this country when music in some form or other did not form part of the school programme. It was, however, when not devotional, regarded as a pleasant means of imparting moral maxims and useful information. It was even used for memorizing mathematical tables. As pure music, as a means of cultivating musical taste and enhancing musical appreciation, the school songs of last century were of little value. Things are better now. In our best schools lessons in musical appreciation, attendance at concerts, listening to broadcast talks on music and to performances of classical compositions have become integral parts of the school work. And the school songs are worth listening to.

The chief enemy to aesthetic culture in our schools is the examination system. This is partly due to the fact that in any product of the human mind the aesthetic element is extremely difficult to assess. To measure it objectively is almost a hopeless task. This, however, is not the main reason why examining bodies exclude the arts and crafts from the select circle of subjects which are

supposed to supply the necessary and sufficient material for a liberal education. For they always include the essay, and the essay itself is an artistic product. At any rate it has an artistic side which makes it as difficult to appraise with mathematical precision as a picture or a piece of furniture. The real reason for the exclusion is that the arts and crafts are believed to have insufficient intellectual content. Since they do not make the same demands upon the intellect as English, Latin, or mathematics they are assumed to be on a lower cultural level. This view is indeed implicit in the syllabus of the school certificate examination, a syllabus which profoundly influences the work in our public and secondary schools.

The subjects of examination are classified in four groups. The first group contains English subjects, including history, the second foreign languages, the third mathematics and science, and the fourth the arts and crafts, including music. In order to secure the certificate a candidate must pass in five subjects, which must include at least one from each of the first three groups. Any three groups will not do; they must be the first three. We are virtually told that the first three groups consist of essentials, and the fourth group consists of frills.

Now note the disastrous effect of this perverted scale of values on artistic education in our public and secondary schools—the very schools whose pupils have just reached a stage of development when they are peculiarly susceptible to aesthetic influences. The scheme of studies in the bulk of

these schools is directed towards one simple goal—the getting of the school certificate. When therefore the pupil reaches the age of 15, and often indeed much sooner, all work is dropped which does not “tell” at the examination. The girls do no more needlework (or so little that it scarcely counts), the boys do no more handicraft. As for art, in the narrow sense, considerably less than half the candidates take it at the examination, and then mainly as a means of gaining charity marks in other subjects. The only pupils certain to escape exclusion from the work-rooms are those who are either too stupid, or too one-sidedly gifted, to hope for the school certificate. Even when the certificate is gained and the pupil remains on at school, he at once begins to specialize for the higher certificate, and the arts and crafts continue to be despised and neglected. For means of reforming these examinations the reader is referred to Sir Philip Hartog’s chapter in this volume.

Another adverse factor is the scarcity of teachers suitably trained for artistic work. Literature, for instance, is not inspiringly taught because few teachers can supply the inspiration. Neither their own early education nor their professional training has been calculated to give them the right outlook and familiarize them with the best methods. As is but natural, they pass on to others the narrow intellectualism of their own training. What is true of literature is true also of the arts and crafts. In fact in each of the school pursuits that has a marked aesthetic aspect there is need for at least one teacher who has the knowledge, the skill, and

the zest requisite to do it justice. There are many such teachers, but not enough to go round. The training colleges are not blind to the needs of the schools, and have begun to specialize in the aesthetic subjects, but the movement, though in the right direction, has not gone far enough.

The schools and colleges having done their duty, the municipal authorities have their part to play. They should be alive to the artistic amenities of their boroughs. A visitor to Brighton cannot fail to notice that the iron railings which so disfigure our squares, our open spaces, and our public buildings, have there almost entirely disappeared. This is because the Corporation has not disdained to seek the advice of its own School of Art. Even one councillor armed with knowledge and enthusiasm can effect a great change. Note, for instance, the beautiful lettering in the streets and over the shops of the town of Leicester—all due to the influence of the late Mr. Harry Peach.

I must here say something about those aesthetic movements which are labelled "modern", if only because many of the most influential teachers in our schools of art belong to such movements. The groups so labelled are small, but they may be seminal. From the seed they sow great things may emerge. One thing is clear—"modern" art, whether it appears in pictures, in music, or in literature, is almost wholly experimental. Its votaries are trying to blaze trails. It is indeed doubtful whether at any period in history so much experimental work has been attempted as during the present century. Victorian movements in England

had come to a dead end. The art of the nineteenth century had ceased to satisfy the connoisseurs and had failed to attract the purchasing public. People with money to spare preferred motor-cars and radio sets to pictures and musical instruments and books. With a few notable exceptions artists could not sell their pictures, and since the urge to create would not be denied they ventured into new fields. Hence the futurists, the cubists, the dadaists, the vorticists, and all the other -ists of the period. They are pioneers digging for gold, and although they seem to turn up nothing but dross, one need not despair. There may be some gold among the dross. The difficulty is to recognize it. For it will be a new sort of gold. Cézanne, Gauguin, Van Gogh, and Matisse were such pioneers, and they were of little account in their own day. The academic school ignored them, and their pictures sold for a few francs. It is true that for every Cézanne who exhibits there are a score of imitators, and to discover the true artist in a new realm of artistic endeavour needs a discernment possessed by few. Hence the need for caution, for patience, and for as much sympathy with the new schools as one's temperament will permit one to muster.

It is well to bear in mind that one's own taste is constantly changing. What seems ugly to us to-day may seem beautiful to us to-morrow. A new manifestation of beauty is something we have to get used to. It does not burst upon us with a blaze of splendour; it reveals itself gradually and insidiously. But once we have seen it, it is ours—a conquest well worth the patience and the toil.

Here again, therefore, is a need for tolerance and catholicity. The besetting sin of the artist is exclusiveness. So acutely conscious is he of one manifestation of beauty, so narrowly interested in one type of art, that he denies validity to every other type. He has his particular canons of art, his maxims, and his catchwords. He likes to have a following and to found a school, and his disciples echo his catchwords, magnify his prejudices, and copy his defects. And in the teaching of art in recognized institutions the same narrowness is often discernible. Rules are rigidly laid down as to what is right and what is wrong, what is legitimate and what is illegitimate. Certain methods are enforced; other methods are tabooed. And in course of time the whole system passes into oblivion. A new fashion comes into vogue bringing with it new rules, new slogans, and new taboos.

Rightly viewed, the realm of art is as wide as the world, and of infinite hospitality. It has room, and welcome, for all tastes and for all stages of artistic development. There is no art so humble and so popular that it need be despised, no art so highbrow as to justify airs of superiority. Aesthetic needs are many and various, and they are ever changing; and to meet this multiplicity of needs one rigid scholastic system, however good of its kind, is woefully inadequate.

It is clear that artistic education is a national duty which is imperfectly discharged by the present training facilities and the current didactic methods. They are too narrow in their scope, too limited in their aims. The task of discovering artistic talent

and enabling it to develop on its own lines is both difficult and delicate. So too is the more widespread but no less important task of sharpening the aesthetic perception and deepening the aesthetic feeling of the whole community. Business and leisure, industry and recreation—every department of human life has its aesthetic claims. The harvest of the past, all the heritage of the race, whether enclosed in museums, or embodied in the material surroundings of daily life, or exhibited in the comeliness of the countryside, calls not only for appreciation but also for pious preservation. The future too has its claims upon us. The creative artist is not only adding to the artistic products of the world, he is also, to the extent of his originality, pushing forward the frontiers of aesthetic sensibility. By so doing he is enriching the spiritual life of the people and increasing the sum of human happiness.

CHAPTER XIV

SCIENCE AND MODERN EDUCATION

WHEN Thomas Sprat, the first historian of the Royal Society, called for "a race of young men provided against the next age", and urged the inclusion of some practical contact with nature in the school curriculum, he was asking too much. Education, like other social institutions, seldom moves until it is pushed. The man of vision plans ahead, but society remains indifferent to his plans and his vision, until the time-lag between social development and educational practice becomes too great to be ignored. A period of hasty improvisation follows in which the immediate practical necessities are more or less met, and the precepts of the prophet are widely adopted, not as a guide to action, but as pious rationalizations of the bread-and-butter practice that necessity has dictated.

The educational revolution which gave science a place in the school curriculum in the latter half of the nineteenth century, came about in some such way. We usually associate this advance with the great names of Huxley, Spencer, Tyndall, and Canon Wilson. They were the prophets of the new education, but we must look beyond them to other

forces, less articulate and so forgotten, but collectively of greater power. We know why Huxley believed in the teaching of science. We can only guess why a Manchester mill-owner, or a Birmingham iron-master or a Hertfordshire squire voted public money for the grants of the Science and Art Department throughout the second half of the century. We may suspect, however, that the mill-owner wanted young men in his business who could manage the new dyes of the 'fifties and 'sixties and that the iron-master felt the need for apprentices who would understand what the metallurgists were talking about. The Hertfordshire squire had seen chemical fertilizers at work on his neighbour's estate at Rothamsted, and felt sure that there was still a great future for agriculture if only enough young men could be trained for the chemical industry (He was also beginning to regret having sent his son to Eton where you could not even learn a modern language.)¹

The rather narrow vocational motive which I suggest played a large part in the establishment of science in the curriculum in the last century, also tended to dominate the kind of science that was taught, especially in schools for the working-class

¹ Two sequences of dates are perhaps not without significance in this connection. The Science and Art Department, which played so large a part in this revolution, was established two years after the 1851 Exhibition, at which British industry was only moderately successful. The Public School Act which empowered the public schools to alter their statutes so as to permit the teaching of science was passed in 1868, a year after the more conspicuous failure of British industry at the Paris Exhibition. A few years later (1875) the Devonshire Commission was demanding that *not less than six hours* a week should be devoted to science in public and endowed schools.

and lower middle-class. In the 'seventies and 'eighties science was apt to include little more than routine chemical analysis and mechanics, perhaps a suitable equipment for the young technician of those days, but a bitter parody of the scientific culture of Huxley's vision. As the industrial uses of electricity increased towards the end of the century, physics gained ground in the schools. Botany of a sort was taught in the impoverished girls' schools, and the requirements of examinations were consequently met at little expense. With the notable exception of the London Board Schools under Huxley's influence, biology in the wider sense was largely neglected until the beginning of the present century. The decision of the Royal Colleges of Physicians and Surgeons to permit their first examination to be taken from school, encouraged the teaching of biology in the public schools and in the more prosperous secondary schools. The extension of biology-teaching throughout the secondary school system is largely a matter of the last ten years, and in part reflects the increasing demand for applied biologists.

This brief survey of certain aspects of the history of science-teaching, crude and inadequate though it is, may serve its turn in warning us against two trends in education. The first is the tendency, from which we still suffer, for the culture of the many to be sacrificed to the vocational requirements of the few. It is true that we no longer force thousands of children through a dreary routine of chemical analysis in order that a very few may obtain some initial advantage among the

rank and file of chemical industry. Nevertheless the upper layers of the educational pyramid still exert an undue influence on the lower layers, and the effect of competitive examinations is often to exalt the subject and ignore the child. Secondly, we who are trying to *plan* education can learn another thing from the history of science-teaching. Educationists in the past have too often been content to rationalize accomplished facts. The routine analysis, and the tedious specific gravity determinations in the school of fifty years ago were not without apologists. A manipulative training suited only to technicians was defended for its disciplinary value, as a training in "accuracy". If we would plan for the future we must look at existing curricula with new eyes, valuing what is good, but without undue reverence for what is merely customary.

What, then, are the cultural needs of the many in the scientific field? We cannot answer this question in any fundamental way without a brief digression concerning the ultimate ends of education. And here, I am afraid, I must state my case with a brevity and dogmatism that may appear a little ridiculous to any who have given thought to this complex problem. That cannot be helped. At least we shall learn from what assumptions we are setting out.

I shall assume at the outset a Utilitarian ethic, that the greatest happiness of the greatest number (in so far as we can recognize it) is an end to be desired. This assumption is implicit in most discussions of social policy. I make it explicitly,

with a clear realization of the difficulties which it involves in certain cases

Among other advantages, it reconciles two extreme views which have been held, namely .
 (a) that the good of society is an end in itself ,
 (b) that the full expression of individuality is an end in itself. For the Utilitarian, the good of society is with some qualification equivalent to the sum of the happiness of its members. Happiness, whatever we mean by it (and on many of the conditions of happiness we can easily agree), is a resultant of two sets of factors . (a) certain capacities or qualities—of taste, character or health—of the individual , (b) the social environment in the broadest sense. Education, I believe, must endeavour to maximize the first, while training citizens who will contribute usefully to the second and try to improve it. We are citizens of the future as well as of the present. We conclude then that *the ultimate aims of education should be to produce people who have a great personal capacity for happiness and who, as citizens, will add to rather than subtract from the happiness of their contemporaries and successors*

That of course is too ultimate an end for everyday use, but we can employ it to determine what is desirable under certain less general heads. These, as I see it, are . (a) knowledge and skill ; (b) the intelligent use of knowledge—reasoning power ; (c) certain moral qualities ; (d) taste—a rich and varied capacity for genuine judgments of pleasure , (e) health. The last three we shall only touch upon in what follows. And in dealing with knowledge and skill it is not my function to examine

the contributions of language and mathematics and the study of history. So the ground is cleared for discussion of the contribution of science to the personal life and to citizenship. From such a discussion we can extract criteria for the building of syllabuses and find how they apply in a particular case.

It is sufficiently obvious that the knowledge that is taught in school is an outline. It stands in the same kind of relation to the knowledge of the handbook as the key map of the Ordnance Survey does to the six-inch map used by the town-planner. Like the key map, one of its values is to tell us what kind of knowledge is useful for a particular purpose and where to find it. If the knowledge taught at school does not give this power it is of little value. But a mere outline without any detail would be a pure abstraction, and, as Huxley pointed out years ago, abstractions without "stuff" have no place in education. Just as most facts are trivial and soon forgotten unless they are used to illuminate principles, so principles are meaningless unless the child has experience of the facts which they co-ordinate.

It is one of the most difficult tasks in education to secure a just balance between facts and principles, to get the child, as Whitehead says, "to see the wood *by means of* the trees." Some of the early teachers of science failed because they tried to teach principles in abstraction from familiar facts. The danger to-day lies perhaps at the other extreme. A knowledge of isolated facts, however useless and fleeting, is easy to test at the age of 16, and the examiner can then sit back and admire the efficiency of the

standardization by which he has gained objectivity at the expense of validity. The child who was asked at a recent examination to make a fully labelled drawing of the limb of a cockroach could only go wrong in a limited number of ways as he searched his memory for the ridiculous names of joints that the entomologist has borrowed for his special purposes from human anatomy

If science is to be worth its place in education we must end this kind of futility. The time and the effort of the child are precious things. They must be guarded against the examiner and the pedant. The child's memory should not be burdened with facts that have not passed an examination. I would ask each fact three questions. (a) Will it be remembered when the child is 30, and if so, is it worth remembering for *itself*? (b) Does it illuminate or make more real or more interesting any *general principle* of lasting value? (c) Is it fun *now*? A fact that scores on none of these should go.

From this emerges incidentally a principle of considerable importance in the building of syllabuses. Wherever possible we should try to kill two or more birds with one stone. The use of man as the chief animal "type" in the teaching of biology is a case in point. It is very desirable that the child should learn certain *facts* in human physiology because they are of hygienic importance. It is also desirable that he should understand certain *general principles* about how an animal works. It has been shown in practice, both in textbooks¹ and in class that the

¹ For example, in my own textbook, *Living Things* (Allen & Unwin, 1935)

human body is at least as suitable as that of the frog for the demonstration of these general principles. Here, quite clearly, is a case where the above rule of economy can be effectively applied. It is pleasant to note that certain examining bodies have recently done so.

If the knowledge taught at school is likened to a small-scale map of nature, we have still to ask whether the scale should be constant or whether it should be varied in relation to certain purposes. I think that we must accept the second of these alternatives and that the centre from which our circles of diminishing scale extend should lie among the needs and aspirations of mankind.

The full possibilities of such an approach are only apparent if we vary the metaphor. For the time being we have thought of knowledge descriptively as a map or a picture. We can also think of it in action as a bag of tools or a book of recipes for social use. Such an approach to knowledge illuminates the whole history of science as a social venture. It has also certain logical advantages which I cannot here develop. But why must we make it the keynote of scientific education?

As Sir Percy Nunn has shown in his chapter, our complex civilization is built on science. It is being daily transformed by science with an ever-increasing momentum. These transformations need not be good unless ordinary men and women make them so. "No society", says Professor Hogben, "is safe in the hands of a few clever people, without intelligent co-operation and understanding from the average man and woman." Man has made an

instrument of immense power, which can be used well or ill, to enlarge the personal life or to destroy it. The growth of knowledge outruns the growth of wisdom, and our society plunges blindly towards the cross roads of opportunity or destruction. If the citizens of to-morrow are to choose wisely they must be alive to the technical forces that shape our civilisation, to the dangers that face it and the new powers for good that lie within our grasp. Society in its hour of crisis, must reach forward to self-consciousness.

We are, perhaps too late, becoming aware of the dangers. The aeroplanes as they zoom overhead are a constant reminder of the burnt and blood-stained horror that science can make of the human body. The voice of the dictator haranguing the obedient multitudes warns us of the power of the organs of mass suggestion, that science has created, to crush and pervert the human spirit.

The average man is less aware of the vast resources for the enrichment of human life that lie to our hand if we will but use them. The efforts of a few socially conscious scientists¹ to make known to him these unused powers do not receive the publicity accorded to the more spectacular calculations of our philosophical astronomers. He does not, as one might hope, greet these latter speculations with the American idiom "So *what?*" On the contrary he goggles with admiration at astronomical magnitudes and concludes with relief that if the earth is

¹ See, for example, *The Frustration of Science*, by Sir Daniel Hall and others, Julian Huxley's *Science and Social Needs*, and the stimulating popular essays of Professor J. B. S. Haldane

smashed to atoms and the sun grows cold it will be all after his time. And so his mind and his will are effectively diverted from the conclusion that technical opportunities should be the concern of every citizen here and now. When we have built the New Jerusalem there will be time to admire the outer nebulae.

I believe then, that our scientific education must aim to produce a generation that will *habitually* think of the knowledges in terms of human welfare. I doubt whether the introduction of applied science of a merely descriptive sort will do this, especially if it is just tacked on, as it so often is, as a mere illustration of "pure science." The basic assumption, which must constantly be made the starting-point of topics in science teaching, is that knowledge must be used to increase the happiness of all men. I do not mean that this statement should be made explicitly or reiterated, but that the knowledges should be presented primarily as a bag of tools for fashioning the material basis of the good life. If we approach knowledge in this way it is apparent that a great deal of elementary physics can be related to the conquest of power and space, and most of the rest of it to a number of other major human needs; that chemistry is largely a collection of rules for making or extracting new materials for human use; that biology can be related in innumerable ways to the problems of hunger and disease, and that geography is in part an inventory of our resources for an age of plenty, and in part a review of local and racial problems in welfare. Theory should be taught as the key to practice as the story of human effort and ingenuity is unfolded.

Can it be done? It has already been done, in a book¹ published by Professor Lancelot Hogben this year. He has shown how the human welfare motive can be carried even into the details of a modern exposition of science. His book is within the powers of any intelligent person of 16 or over. To adapt these methods to the teaching of those who are younger or duller is, I admit, a more difficult task, but one which I believe science teachers can solve, if they recognize its urgency.

One of the most valuable things about this approach to the knowledges is that it provides an integrating motive to the informative side of the whole curriculum. School "subjects" are sometimes presented to the child like the scattered pieces of a jigsaw puzzle. Each specialist teacher is greatly concerned that his pupils should pick up a particular bit. It is no one's business to see that the pieces are fitted together to form a coherent picture. The child acquires some knowledge of diverse tools. He gets little practice in their joint use upon the problems of social living. It is here that the sixth form in the secondary school, and perhaps the top class of the senior school, could do valuable work. There are plenty of examples of socially directed investigations which involve the joint use of several techniques. Sir John Orr's study of the nutrition of our population is one. One could compile a list of such studies that illustrate vividly the collective use of the tools in the bag. And then, perhaps, having seen how it is done, we could go on to what I might call "Sixth Form Projects",—co-operative efforts in

¹ *Science for the Citizen*

technological planning of a socially directed kind. Imagine, for example, a group of 17-year-olds, sitting down to investigate the problem of power production, or the future of food supply, either of which questions involves a variety of techniques, including the social sciences. They would not reach conclusions of earth-shaking importance, but their knowledge would have been put to the searching test of social use, and the difficulties and delights of the use of a disciplined imagination in social planning, would have been brought home to them.

It is not, however, enough that science in the school should be brought into relation with current social applications. The *growth* of knowledge is a social process. Science is a tool that shapes society and that society in its turn sharpens to a keener edge. If we are to give people a sense of this action and reaction in our complex modern society, we must let them begin with easier (but still, I fear not easy) examples, taken from the past. In other words we must teach science in some measure historically, and by that I do not mean the occasional mention of a great name, but that the history of how the tools of science have been forged in the fire of social effort should be intimately woven into the exposition of their nature and use. Such a treatment is as significant for the teaching of history as it is for the teaching of science and mathematics. It bridges the gulf that has hitherto existed in education, between the humanities and the sciences, between man, the social animal, and man, the interpreter and controller of nature. Here again Professor Hogben has shown the way, though much

work yet remains to be done before his technique can be adapted to younger or less intelligent pupils.

Let it not be thought that in desiring an emphasis on the social applications of knowledge I am advocating a neglect of those aspects of science that cannot be put to such use. I believe with Joseph Glanvill that "philosophy must signify either for light or use", and it has often happened that in creating a tool for the relief of his material needs man has shed a light through the dark places of his mind. The decline of the belief in witchcraft owed something to the writings of Ady and Webster. It owed much more to the scientific temper of an age in which "spirits" had been driven from the retort, and the four elements were beginning to be understood in order to be harnessed in the service of man. The whole panorama of evolution is an example of a kind of knowledge that cannot be put to material use, but that brings with it a widening of the human horizon and a sense of a larger history.

We turn now to our second aim—*reasoning power*. It is urgently necessary that the citizens of the future should learn to think without prejudice, to detect and reject the merely plausible, and to apply the methods of reasoning which they have practised in special fields to the broader problems of real life. Yet we have long passed the stage when it was supposed that every subject trained the reason provided that it made you think. In fact, for some years, it was widely held that no *general* training in reasoning was possible. More recent work has supported a middle view. It is now thought that some degree of general training in reasoning can be

achieved through the ordinary subjects of the curriculum, provided that the pupil is made vividly conscious of the generality of the methods used. He must come to realize the community of logical shape among problems of diverse factual content, and to think of logic as the detachable handle to a variety of tools

This detachment of the logical method from the factual material in which it was first met is surprisingly difficult to achieve. I recently had the opportunity to read the opinions of a large number of candidates of 18 upon what constituted a controlled experiment or observation. Most of them evidently thought of the control of observations as something that one does in plant physiology—indeed some of them associated it exclusively with the conditions of germination of seeds! There was little sign of any realization that controlled observations are just as desirable in education or sociology, and that the lack of such control is one of the most frequent forms of unreason in a sloganizing world.

Something can be done even within the boundaries of a single subject. Mr G. P. Meredith, who was one of the first to stress the importance of "consciousness of method" in the training of reasoning, has done valuable work on these lines in the teaching of physics. I have experimented with a similar object in the field of biology.¹ But from

¹ In my own textbook, I devoted the last chapter—with which I am far from satisfied—to the methods of science. The main types of inductive inference were discussed very simply and informally, using as examples experiments that the child had already performed earlier in the course.

the very nature of the problem, a complete solution may not be possible without close correlation of teaching methods in several of the main subjects in the curriculum, including mathematics and English. The task is to integrate the curriculum on the logical plane, just as the common aim of human welfare can be used to integrate the curriculum on the plane of content. We must seek to produce people with a lively grasp of the means and conditions of positive knowledge, gained by experience of the means to knowledge, made conscious in diverse fields¹. It would be interesting to pursue this question further, but my conclusions would be largely tentative and my space is short. The whole matter cries out for further experiment and co-operative effect in simplification.

We can now examine very briefly the kind of way in which the criteria which I have tried to establish can be applied to the teaching of a particular science, namely biology. For the reasons stated earlier, we shall adopt man as our chief animal type, using the child for experiment and the rabbit or the rat for dissection. The keen interest with which the child realizes that biology is a means to the understanding of his own body is a powerful driving force in this method of teaching.

Within the field of human physiology, all things

¹ In the important contributions of Dr. Thouless and Mr. Jepson, logic is taught directly with special reference to social questions, and the emphasis is upon prejudice, deductive fallacies, weak analogies, verbal trickery, and the like. This method is very valuable in developing a critical attitude towards polemical argument, and would carry us far if combined with the training in the manipulation of facts advocated here.

will not, however, have equal weight. Some functions are of great importance for the hygiene of the individual or in their bearing on intelligent citizenship. We can use an elementary knowledge of nutrition to feed ourselves or our children wisely, or to come to sound conclusions on the adequacy or otherwise of the "dole." We cannot, by taking thought, improve the working of our kidneys. On hygienic grounds, nutrition scores heavily, and nitrogenous excretion not at all. (Yet there is some evidence, from the results of examinations, that food values are not often adequately taught in schools. Very few candidates of 18 have any utilizable knowledge of the distribution of the vitamins, or of how to calculate the energy value of a diet.)

Again, certain aspects of human physiology are of special importance because they lend themselves readily to experiment, and so serve as windows through which the child can see something of his own machinery at work. They rub home, as it were, the fact that "This means *you*." The blood system is a case in point, which also scores heavily on other grounds. Other features of the working of the body (for example, the nervous system) may contribute more to "light" than to "use", and others again are worth extended treatment because they provide valuable links with other sciences.

These rough criteria of stress will not be taken too literally. The body is a unity, and no major feature of its work can be left out. And that reminds us that one important function in the mammal, namely reproduction, has, until quite

recently, been excluded from textbooks and examination syllabuses, and is only just beginning to find a place in some of the latter. Textbooks which provide the same matter-of-fact treatment of mammalian reproduction which they accord to other bodily functions are still banned on these grounds from some schools. It is hardly necessary to give space to criticism of a practice which no one has ventured to defend on educational grounds. It is to be hoped that examining bodies and education authorities will give support to teachers who are unwilling to see their subject so mutilated.

Among plants we shall naturally take as our chief type a flowering plant, and here again the emphasis will be on function rather than on structure. For example, the endless varieties of leaf shape and fruit structure, once so beloved of examiners, will be relegated to the class of facts that are worth knowing once, to illustrate some principle or to achieve some purpose, but with which the memory should not be burdened. (A large number of facts in the whole field of knowledge fall into this class.) In our study of function, we shall lay particular stress on those aspects that have a bearing on agriculture and gardening. In country schools, this part of the biology syllabus can be developed very fully with valuable results.

Besides our study of these two main types, we shall undertake a survey of the diversity of animals and plants on an evolutionary background. And here our criteria of stress are twofold. Certain groups are of educational importance because they represent key points in the story of evolution. This

is true, for example, of the Amphibia among animals, and the ferns and their allies among plants. Other groups owe part of their significance to their place in the human ecological system. For example, the insects are the chief competitors of man in the exploitation of plants. The struggle between the human species and the insect class is one of the major features of man's conquest of hunger and disease. The bacteria, that turn the wheel of life, that serve us and destroy us, will also have their place.

Lastly, we shall need to give more attention than it has yet received in school to the study of heredity. Increasingly, man is adopting the role of the Creator. He is gaining the power largely to remake his ecological system in accordance with his needs and preferences. There is a mistaken tradition that the subject is difficult to teach at the age of 16. As teachers gain experience, and new methods of approach are developed, this is proving not to be the case.

I have sketched in the barest outline the kind of way in which the syllabus of one of the sciences can be *planned* in relation to educational ends. To complete the picture one must imagine that the whole is given temporal depth by a historical treatment, that full scope is given to the child's interests and activities, to the things that are beautiful and the things that are fun, and that every opportunity is taken to employ the material of biology for the conscious realization of logical method. Biology is peculiarly suitable for this last purpose, since the logical methods employed are more frequently

applicable to social questions than are those of the physical sciences

Two questions will rightly be asked of anyone who proposes a broadening of the science curriculum. "Is there time?" "Have we the teachers?"

The cultural ends of science teaching will not, in my view, be attained by the separate treatment of one or two sciences only. Yet this is what at present happens in the majority of schools. Physics and chemistry without the science of life, physics and biology without the science of materials, chemistry and biology without the science of power, are mutilated caricatures of a scientific education. Yet few schools would attempt to carry three full science subjects to School Certificate level. Even if they did, we should still have to ask what had become of the most ancient of the sciences, astronomy. The modern man is almost entirely ignorant of the everyday astronomy that has played so large a part in the history of our conquest of time and distance. The subject links up in all kinds of ways with the history and teaching of geography and mathematics, and with the further progress of the diagram film, it should not be difficult to teach.

I think, then, that this problem of time cannot be solved without the general adoption of a General Science course in place of the teaching of separate science subjects. Apart from its obvious advantages in the integration of the curriculum, this leads to various economies. The opposition to this reform is largely, I think, an example of the influence of the upper layers of the educational pyramid on the lower layers. The adoption of General Science as

a subject at the School Certificate Examination does not favour that early specialization that is often supposed to be conducive to the acquirement of university scholarships. Heads of schools very naturally feel responsible for the future of particular children. They are often reluctant to take such a step unless all change together. Administrators, examining bodies, and the universities, are above the battle. Between them, they could give a lead, to which I feel sure the schools would respond¹

As to the actual time to be allotted to General Science in the secondary school curriculum, is it too much to ask that after a lapse of sixty-three years the *minimum* recommendations of the Devonshire Commission should be implemented, and six hours or eight periods a week given to the tools of mankind? That such a demand will appear to many as exorbitant is a significant commentary on the hopefulness of those days and the frustration of science in our own²

Have we the teachers? The teacher of science is an adaptable and intelligent man or woman, work-

¹ The adoption of General Science as a double subject at Higher School Certificate would, I think, be a valuable reform in itself, and would meet the difficulty referred to above

² Although the Thomson Committee in 1918 urged that not less than six periods a week should be given to science between the ages of 13 and 16 in boys' secondary schools, four periods a week or less is a common allotment. And even the Science Masters' Association in a valuable interim report on the teaching of general science has felt it necessary to put forward in the first instance a minimum syllabus suited to schools which can devote no more than four periods a week to the subject. With the greatest respect for the abilities and devotion of a fine body of men, it may be questioned whether such a capitulation is good tactics. I understand, however, that the Association's final report will propose a wider syllabus demanding a greater time-allowance.

ing only too often under an initial handicap. University degree courses, admirable though they may be as a training for research workers, are frequently too specialized and too academic to provide a broad background to the teaching of science. The young teacher may have memorized a vast quantity of information which would be better stored in his books than in his brain. He may be largely ignorant of the history of his own subject, of its connections with other fields and of its social ramifications. That is a question that university authorities will have to consider. There are possible solutions. Meanwhile, the teacher of science, with his customary persistence, will endeavour to make good deficiencies for which he is not initially responsible.

All of these problems are difficult. They cry out for vision and courage and the will to act. If we face them intelligently we may yet produce a generation that, in Bacon's words, will "give a true account of their gift of reason, to the benefit and use of men".

CHAPTER XV

ECONOMICS AND MODERN EDUCATION

IN the first chapter of this book Sir Percy Nunn has stressed "the extreme importance of bringing our education into close and vital relations with the deeper and more significant movements in our national life". If this aim is to be realized—and not many will dispute its desirability—it seems impossible to exclude wholly from our educational plan the teaching in some form or other of what is called economic science. The immensely significant part played by economic forces in determining our social and political environment is to-day universally acknowledged. In this limited sense at least it must be admitted that "we are all Marxists now". And while it is no doubt desirable, as Sir Percy Nunn suggests, "to attach to scientific studies a dignity and importance answering to their significance in the activities of the nation", a mere extension of teaching in the natural sciences is certainly not the only change required, if the contacts between education and national life are to be adequately strengthened.

Scientific discovery has transformed the world. But it is by no means the only dynamic force in our

society to-day. Moreover, its social consequences are produced in and through a particular institutional framework. It is important, surely, that people should learn to appreciate those other non-technical forces and that they should understand this institutional framework. And if it is considered desirable that scientific thought should be cultivated, should we not encourage its application to social as well as to natural phenomena? For it cannot unfortunately be assumed that an extension of this kind takes place spontaneously, that those trained in the natural sciences automatically think in a scientific way about social problems.

There is another reason why a more widespread knowledge of the social sciences is especially urgent to-day. As citizens of a modern democratic community, we are constantly required to pass judgment upon issues to which such knowledge is relevant. It is true that these issues generally include, not merely a choice between different methods of achieving a given social end, but also a decision between different ends, and most scientists would agree that this latter type of decision lies outside their province. But the issues of modern politics are seldom confined to a difference of ends. Nor can these ends be regarded as clear-cut ideas independent of the means by which they may be achieved. At a general election we do not simply choose between peace and war, employment or unemployment, equality or inequality—we choose between different policies which always imply different means and sometimes imply different ends, we choose between free trade or protection, the gold standard or free exchanges,

public works or balanced budgets, collective security or a more isolationist programme. It will scarcely be denied that a knowledge of the probable consequences of different policies is, in all such cases, an essential aid to rational decision. Even where there is a fundamental divergence of ends, we cannot decide properly unless we know how these ends are to be achieved and what costs and sacrifices are involved. But knowledge of this kind is to be acquired, if anywhere, only from the social sciences. It seems therefore that some training in them is an essential part of education for citizenship.

In the face of this need it is a somewhat remarkable fact that the social sciences, as commonly understood, occupy only a tiny part of the ordinary school curriculum, and even in the universities are still largely overshadowed by the faculties of "Arts" and "Science". It is the main purpose of this essay to examine the reasons for this, to inquire whether any changes could or should be introduced, and to discuss what form the changes, if any, should take.

The most important reason why more students do not take economics at the university is probably the non-vocational character of the subject. However much we may regret it, the fact is that in the provincial universities especially, where the social services are least cultivated, the vast majority of students cannot afford to take a subject which does not automatically qualify them for a particular career. For personal economic reasons they need to be sure that the degree for which they are working is not merely an indication of their general

intellectual calibre but also a key to a particular job. On leaving the university they obtain for the most part either technical posts in industry or school teaching appointments. Now, valuable as a training in economics may be—and more will be said on this topic later—it cannot possibly equip an individual for specific industrial posts to quite the same extent as an engineering degree qualifies a man to be a works manager or a physics degree for a research post in the electrical industry. For those who intend to teach, an economics degree is less suitable than many others only because the demand for economic specialists in schools is still very small, and this, in turn, is due to the unimportant part played by economics in the school time-table.

If we ask why economics is not taught more often in schools, the answer is also partly to be found in the same fact—the non-vocational nature of the subject. For although, of course, specialization is not carried so far at this stage of education, in the higher forms emphasis tends to be laid on those subjects which are most commonly taken at the university or required for vocational reasons by those who are not going to the university. There is thus a close interrelationship between the under-emphasis on social studies in the schools on the one hand and the universities on the other. Economics is not taken at the universities as much as other subjects partly because it is not a school subject, and it is not a school subject partly because it is not taken at the universities.

There are, however, other reasons of an even more fundamental character which both explain

this situation and also throw some light on the non-vocational character of economics. These reasons are associated with the nature of the subject itself

It must be frankly admitted that as a science economics at present lags far behind the natural sciences. Mrs. Wootton, in her stimulating book *Lament for Economics*, has described it as useless, unintelligible, and unreal. Economists, she says, disagree on policy and are also politically biased in their opinions. Now, while unintelligibility is a term which might well be applied to every science by those who know nothing of it, no one would venture to say that the natural sciences were useless or unreal. And, although on the frontiers of knowledge disagreement naturally continues and may be accompanied even by "political" bias, there is a very much wider area in natural science where neither of these attributes are to be found.

It is unnecessary here to do more than mention the reasons why some, at least, of Mrs. Wootton's charges are certainly justified. For a fuller account of the matter the reader may refer to her book itself.¹ The weakness of economics as a science is not due, as some would have us believe, to the mentality of economists but to the fact that the phenomena with which economists deal are not nearly so susceptible to the use of those methods which have been conspicuously successful in the natural sciences. The two most serious difficulties are the lack of constancy in the data, which makes it extremely difficult to verify a particular hypothesis by empirical study

¹ See pp. 35-110. I should add that there is also a great deal in Mrs. Wootton's book with which I do not agree.

and the absence of a laboratory technique which can impose such constancy. If we wish, for example, to discover the effects of introducing tariffs, we can make a comparative study of the position in different countries where they have been introduced. But it is doubtful whether such a study would yield any valid generalization, partly because the circumstances in which the tariffs were imposed would certainly be different and partly because there would be other simultaneous changes in data which could not be abstracted.

It is because of these difficulties that so much economics is theoretical in character—*i.e.* the results of a change of data are deduced from the knowledge of how individuals are likely to behave. Conclusions based on reasoning of this kind are bound to appear somewhat unreal owing to the very necessity of assuming that "other things are unchanged". From the teaching point of view this is a very serious obstacle. It is generally necessary to begin with the simple and proceed by stages to the more complex assumptions. But the simpler the conditions the more remote from the real world. Thus the elementary student, who has very likely been attracted to economics by his concern for the unsatisfactory economic condition of society, finds that in the beginning he is told very little indeed about all those pressing problems in which he is interested. He has to learn, for example, the theory of perfect competition, although he knows and is probably told as well that perfect competition is rarely, if ever, to be found in the real world. He is taught a theory of international trade which is based on the assump-

tion that labour and capital are mobile within a national area but not at all between areas, although the relative immobility of labour within such an area and the relative mobility of capital between such areas is at least comparatively common.

The dilemma between simplicity and unreality on the one hand and complexity and reality on the other is undoubtedly real enough. At the present moment it would be impossible to teach elementary students the full theory of imperfect competition or international trade simply because the subjects are too difficult and can only be handled by technique which has first of all to be acquired. There is, of course, the third alternative of introducing more realistic problems and teaching over-simplified and superficial conclusions about them. This, though sometimes tempting, is hardly to be commended. In the long run such a breach of the scientific code is certain to be disastrous.

The difficulty of teaching economic theory to elementary students is sufficiently great even when those students are fairly mature and have deliberately chosen to work for an economics degree and realize that they must learn to walk before they can run. It is almost insuperable when the students are school boys and girls who are, in any case, probably less capable of abstract reasoning¹ and who very likely have no intention of proceeding further with economics. It is of little use telling them they must walk first if they are not going to run at all. There is even a danger that their incipient interest in social

¹ Though their success in mathematics does not seem to bear this out

affairs may tend to be killed by the dry and abstract and difficult nature of what they are taught.

There is another obstacle to the teaching of economics in schools which also arises from the nature of the subject. That which has to be taught itself changes fairly rapidly as work in the subject progresses. Precisely because so much less has been achieved, the boundaries of knowledge are nearer. In consequence it happens more frequently than in other subjects that the progress of research affects even the elementary stages of the teaching. Sometimes this is due to new discoveries—empirical or theoretical—about the same institutional environment. But even if these did not occur, the science would certainly have to change as this environment altered. Rapid development, such as we have witnessed during the last ten years, brings with it inevitable difficulties for the school teacher. It means that he has to keep far more closely in touch with advanced work than would otherwise be necessary. It means that textbooks have to be written, or at least revised, and consequently purchased much more often. These things would not matter so much if the books really were written, there were unlimited funds with which to buy them, and schools could afford to have on their staffs teachers whose whole time was devoted to economics. At present none of these conditions exist. The textbooks tend to be out of date. Funds for buying new ones are often limited, and it is extremely rare for a school to be able to afford a whole-time economist. The last difficulty would no doubt disappear if economics were taught more widely.

But at present it remains a serious handicap to adequate teaching.¹

It should by now be sufficiently clear that the comparatively small place occupied by economics in the existing educational curriculum cannot be put down merely to historical accident or the difficulty of dislodging studies of a more traditional character. There are other obstacles of a more inherent type which block the road to the establishment of economics as a main school subject. Is it worth while attempting to overcome these? What results would be achieved if they were overcome?

The answer depends, of course, on the educational value of economics. As a university subject and for the abler students who attend adult education classes economics has, I believe, very great educational value. Some of those very qualities which hamper its progress in schools are actually of great benefit at a later stage. Precisely because of the uncertain character of so many of its conclusions, it encourages in the student speculation, originality and the obligation of thinking things out for himself. Precisely because so much of the subject is abstract and involves deductive reasoning, it provides a first-class intellectual training. Moreover, quite apart from theoretical work, an economics degree course normally calls for a very considerable knowledge of economic, financial, and political institutions, without which theory alone would be excessively barren. In short, I should contend that a university course in

¹ This is, of course, no reflection on those who teach economics to-day in schools. In my opinion, considering all the circumstances, their results are extraordinarily good.

economics encourages the intelligence and equips the individual as a citizen better than many other more purely technical and vocational studies. Best of all for a first degree course is probably one which is not too specialized but which includes, besides economics, some history, philosophy, or one of the other social sciences.

Such a course, it must be emphasized, will not turn out a fully qualified expert capable of advising the community in economic and monetary policy. Nor is it in the least desirable that it should. The purpose, even of university education, should surely be not the production of experts but the development of the best type of individual and citizen. There is, of course, a demand for experts. But to produce them a further stage of higher degree work or teaching or research is needed. The facilities, incidentally, for this stage are still by no means satisfactory. But to pursue this particular topic further would take us too far from the central purpose of this essay.

For even if it be agreed that an expansion of economics in the universities and the provision of more research posts is to be welcomed, the question of economics in schools still remains unanswered. The vital point here is that the mere expansion of economics in schools on the lines of the first-year work in the universities is, I am convinced, not the right solution. The first-year work in the universities is essentially preparatory in character to further and more advanced studies. Taken by itself, as it must be by the vast majority who are not going on to university degree courses in economics,

its value is very greatly diminished. If it is desirable that boys and girls at school should spend some time on social and economic affairs, the ordinary first-year economics course is not the best use of that time

Something else is needed in its place. That something else must be more descriptive and more realistic in character; it must be, as far as possible, complete in itself, it must provide knowledge of the social and economic structure and must be capable of arousing the interest of fairly immature pupils in that structure, it must aim at inculcating a scientific attitude towards social problems. This is not the place to work out a detailed syllabus for a course of this kind. But it may be suggested that it should include at least the following three main subjects: (1) Economic History up to the present day, (2) the Social and Economic Structure, to cover in outline both financial and industrial organization as well as local and central government, (3) Economic and Social Problems. Only the last of these is likely to present any real difficulty. Its purpose should be not to provide ready made solutions but rather to illustrate the technique used in economics and the social sciences generally. There should be no attempt to avoid "loose ends" here. On the contrary, in the case of any problem at all complex, the pupils should be shown how it is not possible to proceed further without more specialized and advanced work.

There is nothing particularly novel about a scheme of this kind. There are probably quite a number of schools where teaching of these subjects

exists. But there is a strong case for its extension and for the appointment of specialist teachers with economics degrees to conduct it. Nor is there any reason why it should not be introduced in a modest fashion at quite an early stage. Probably the most serious obstacle lies, as in the case of many other reforms, with the present examination system. A course of this kind would not fit in with the existing matriculation or higher schools examinations. It must even be admitted that it might be very difficult for an outside body to conduct a single examination for many different schools on such a course. To discuss how this problem should be tackled would take us too far afield and involve trespassing on the preserves of other writers. But it is surely the duty of the universities to secure that their system of examinations should not stand in the way of valuable educational reforms.

CHAPTER XVI

PSYCHOLOGY AND MODERN EDUCATION

RECENTLY the University of Oxford, consequent upon some form of extra-academic relations, gave late birth to a little Institute of Experimental Psychology. This is a case where one of our leading universities has not merely discouraged, but for many years resolutely opposed, the establishment of an experimental science of human behaviour. One reason for this may be the fear that the halls of philosophy and theology would empty themselves for the laboratory. Certain it is, that the little Institute will grow to larger dimensions in spite of cold opposition, but it will take time before it liberates itself from the deadening influence of certain Oxford schools of thought.

It is of interest to know that whilst there is a superabundance of Chairs in Theology, there are only four professors of Psychology in all the universities of England and Wales, and a mere handful of lecturers. A similar lack of facilities is present in such fields as sociology, genetics, and social biology. There is, as well, much disproportion in the allocation of available funds to respective fields of study.

We need a generation of social technicians to

learn to control human life as physical science has learned to control matter. There is, as yet, little encouragement or inducement to research in the human sciences. Modern urban and industrial life has generated very many social problems, but hardly any systematic research is undertaken to investigate them.

Dr Julian Huxley, expressing his agreement with Lord Stamp's advocacy of "guiding as many as possible of the best scientific brains of the young generation away from the sciences of matter—physics and chemistry—and into the sciences of life—biology, psychology and sociology", writes: "We have got a great deal of control—quite enough to get on with for the time being—over lifeless nature. we have practically no control over human nature, and over the monsters we have unconsciously created, or at least allowed to grow up unchecked in the shape of economic systems, unintelligent moralities, nationalist sovereign states, mass ignorance, and mass hysteria."

It has been pointed out that the development of any science depends largely on its commercial value. Vast fortunes are not made from biological work, and since it scores a low mark on the profit-making scale of values it is poorly endowed. The science of psychology, which is even less concerned with marketable goods, and where the ends are social rather than individual, is hardly endowed at all. The limited applicability of the human sciences in the accumulation of individual wealth has made them non-vocational in character. Only when individual and competitive motives are displaced

by social and co-operative ones can there be any real advance. Yet the possibilities of vocations for psychologists have yet hardly been realized. It has been suggested that law courts should employ professional psychologists since they are by training qualified to throw light on the motives of accused. We "need a law psychology service as an integral part of the legal system." In another chapter Professor Cattell stresses the urgent need for psychological clinics attached to schools or educational areas throughout the country. There is very much waiting to be done by trained workers in Vocational Guidance and Selection, and if in our democracy the worker got the attention he merits, a great deal might be done by industrial psychologists to discover optimum conditions for work in different industries. Perhaps the new scientific advisory council of the T U C., which, strangely enough, does not include a psychologist, may become alive to the latter problems.

If our premise is true that psychology is poorly endowed as a science because it is of little value as a business proposition, and knowing as we do know the important part it has played in education and social organization, then other means of promoting its development must be found. The present authors believe that a solution to the problem would be obtained by the establishment of a National Psychological Laboratory, comparable with the National Physical Laboratory at Teddington. The scheme is not altogether new in that it exists in a nucleus form in the Industrial Health Research Board. Moreover, the Hadow Committee (1924) recommended that

a central educational body be set up which could arrange for continuous investigation in various social fields over a number of years

This central body would be set up by the Board of Education and would comprise "administrative officers and inspectors, teachers, school doctors, psychologists with a knowledge of school children, and trained statisticians. The work of a Central Committee organized on these lines, would be not unlike that of the National Physical Laboratory in its own sphere."

Since, as has already been shown in this volume, most problems of education are problems of the whole life of the whole community, it would be essential for the National Psychological Laboratory to cover as wide a field as possible in its investigations. It should not, of course, take over the psychological work of local education authorities since every form of initiative external to itself must be encouraged. It would act more as an advisory body in regional experiments, but at the same time it could plan and carry out experiments on a wider scale. It would follow up the products of education in the industrial and commercial sphere and see how far education had achieved its aims.

The National Psychological Laboratory should benefit from small experiments in other countries. It should follow the example of the Geneva Laboratories and have an experimental school attached to its premises. It should have a section similar to the Laboratories of the French State Railways for the selection of civil servants. It should have a section similar to the new school of administration at Har-

ward in close touch with industrial and commercial life. In fact here is the opportunity for a government to make some serious effort at investigating and planning "Human Affairs".

The extension of the method of scientific investigation into the field of psychology is a very recent one, and has met with much opposition. There is still much support for the belief that behaviour cannot, or should not, be studied by the scientist, and from time to time various journalists preach against this new threat to the freedom of the soul. Recently the *Evening News* devoted a whole column of its editorial to an anti-psychology doctrine: "The lay mind has become aware of psychology, but it is not yet aware of its obvious limitations. . . . Therefore all this talk of neuroses, repressions, complexes and the rest. Dissatisfaction, however, unhappiness, worry, anxiety and fear, are all of them part of the ordinary human make up . . . Normal men and women are often sad, frustrated, worried and scared; they were, long before the psychologists came, and they will be, long after the psychologists have gone."

In certain sections of the educational field psychology is beginning to take an important place in the framing of the curriculum. The Workers' Educational Association and University Tutorial Classes have found it to be one of the most popular subjects in their courses. The conditions under which study is undertaken in these organizations make them very favourable for the social sciences. There is no longer any need, as in the schools and universities, for the subjects to be vocational in

character. Indeed, study can be directed into broader and more social channels. Furthermore, there are no restrictions on the syllabus such as examinations inevitably impose.

Some attention is paid to psychology in the training of teachers, though clinical experience and experimental work is far too often omitted. If education students are properly trained in this respect they cannot help passing on to children a scientific outlook towards human behaviour. But this in itself is not enough.

A natural step following the introduction of biology into schools is to include psychology in the science courses. The mere fact that psychology is being introduced into the Intermediate course at London University is an argument in its favour. But there are many other reasons. It is urgently necessary to diffuse a widespread scientific attitude towards the problems of human behaviour even if this will involve a certain amount of contempt on the part of pupils for their teachers.

We maintain that psychology should form part of a general science course in every school. The main criticism which such a policy will arouse is that psychology is as yet too undeveloped for it to find any place in the ordinary curriculum of schools. This, in itself, is no serious objection so long as it is taught from the experimental standpoint, thus teaching the children to look on human problems as matters which cannot be settled by argument but by experiment and observation. This would mean a considerable revision in the teaching of mathematics for the results of experiments in the biological

and human sciences require special methods of treatments. The statistical methods most frequently used in psychological work would be no more difficult to teach to children than a lot of elementary algebra, and, owing to their wide applicability to problems of everyday life, they have considerable vocational value. The extension of the teaching of science into the biological, psychological, and economic sphere demands a radical revision of the teaching of mathematics. Statistics should be taught with a view to the analysis of data which the children themselves have collected, and psychological experiments provide ample and interesting material.

The teaching of psychology is not necessarily concerned with the pathological, but a wider and better understanding of mental disorders would contribute considerably towards the more sympathetic treatment of psychotics. It is unfortunate for those concerned with the treatment of mental disorders that the public still considers them either as wicked or "unmentionable". Education authorities have paved the way for a better understanding of abnormalities by the provision of clinics for the treatment of abnormal behaviour, but this is insufficient to change the public attitude. Human behaviour itself must become a general subject for study, for only through this means can there develop a healthy attitude towards the problems of the individual and of the social organization of man.

The universities must give a lead in the development of psychology in the field of education. It must be given an equal place with the other sciences.

Every university should have at least one professor of psychology and adequate laboratories. It should belong to the faculty of science only and sever its attachment to philosophy and the faculty of arts. The narrowness found in the teaching of psychology in this country is due, to a very great extent, to the body of "learned" scholars who supervise such institutions. There is at least one university in which it is said that spies are sent to the lectures to see that no improper references are made to the subject of "sex." A department of psychology should be of practical value to any university since there are many problems of administration and internal organization where psychologists could be helpful. Investigations into the selection of students, examinations, and incentives should be undertaken by the staff. There should be facilities for students to get advice in the case of neurotic and other disorders. In fact the department of psychology in any university should be an essential factor in the progress of the institution. In the United States, where psychology is a great deal more developed than it is in this country, the expansion of the science follows along these lines

CHAPTER XVII

THE PLACE OF EXAMINATIONS IN THE SOCIAL SYSTEM

THE word examination awakes in most of us a sense of discomfort. Many English children from the age of 9 or 10 upwards—and their parents—know that their whole careers will depend on the results of examinations.

I quote here a passage from the report of an Inspector of the Board of Education printed in the recent pamphlet on *Homework*, published by H M Stationery Office. "The scholarship class looks lively and vigorous at present, but the headmaster says that when the examination is imminent they show very marked signs of strain. His own description of them is 'they look as if they were carrying all the cares of the world on their shoulders, and look like old men and women. The parents have made them feel the tremendous importance of the examinations.' All these children of 10 and 11 are doing regular homework."

Speaking of the School Certificate examination a few years ago, Mr C L Bryant, M A, assistant-master at Harrow School, stated that a careful study of school records had shown him that one-half of

the boys who started fell out by the way and never reached First School Certificate standard. It was a very sad thing, he said, to watch their struggles towards the end of their career, and to see the deadening effect that failure had upon them.

Of the evils of examinations of this kind there can be little doubt. I think it was T. H. Huxley who first invented the often-quoted phrase, "examinations are a necessary evil", a phrase that I shall challenge later. And before I have done, I want to draw attention to a great movement in the United States for transforming the examination system from a capricious instrument of discomfort and anxiety into a beneficent and relatively trustworthy instrument for guiding individuals into the careers that fit them best.

I suggested some years ago that examinations had become as it were an artificial nervous system of our education, of which every movement was controlled, either by their stimulus or by their power of inhibition, and I think that is largely true, but it is not the whole truth. Indeed the subject is so vast, the literature on it in many languages so extensive, that it is no easy matter to deal with it in the brief perspective required for a chapter of this kind.

Before discussing the questions of principles and practice, let us survey for a moment the magnitude of our problem in this country, as judged by the number of candidates and of independent examining bodies.

At the age known as 11+, "Special Place Examinations" are held in England and Wales by

over 200 local authorities, for which it is estimated that some 500,000 children present themselves annually, and on the results of which their future educational career depends. "The Special Place Examination", says Dr. Ballard,¹ "has become a national institution. It winnows elementary school children into three distinct classes: the best of all (rarely more than 5 per cent) go to the secondary schools; the second best (roughly about 15 per cent) go to some such institution as a central school, or a technical school; the remaining 80 per cent stay on at the senior elementary school. The actual percentages vary with the locality."

For children of the wealthier classes who go to "preparatory schools" there is the "Common Entrance Examination" at the age of about 12 to 14, used by many public schools as a test for admission for those who do not take an entrance scholarship examination.

At the age of from 15 to 17 (roughly speaking) something like 70,000 candidates take the School Certificate examinations in England and Wales annually, and, of the 75 per cent who are successful, between 5 and 10 per cent proceed to universities. These examinations, and the matriculation examinations for which they so often serve as an equivalent, formally guard the portals of almost every professional career in England and Wales, and, without formal sanction, the entry to business careers for thousands of individuals. The Leaving Certificate Examination conducted by the Scottish Education

¹ Article on "The Special Place Examination" in *Essays on Examinations* (Macmillan & Co, 1936).

Department performs a similar function in Scotland, and there are corresponding examinations conducted by the Ministry of Education in Northern Ireland.

The seventeen universities of Great Britain and Northern Ireland confer over 11,000 degrees and 5000 diplomas annually. The University of London alone in 1936-37 examined 46,000 candidates, including its quota of School Certificate candidates, and received from them £188,000 in fees. In a book published recently my collaborator and I recorded the titles of 100 different kinds of university degrees awarded by examination, including examinations by thesis. Moreover, apart from university bodies and Government departments, we recorded the names of some 190 reputable examining bodies, classified under 70 headings, such as accountancy, advertising, architecture, drawing, engineering, grocery, librarianship, massage, meat trade, medicine and surgery, nursing, secretarial work, transport, etc. One of these bodies a few years ago examined 100,000 candidates annually. The Ministry of Transport has become an examining body for motor drivers on an immense scale. Between 1934 and September 1937 it carried out 774,000 tests for motor drivers, with 200,000 failures.

The enumeration is not exhaustive, but even excluding the tests for motor drivers and examinations of the school-room and the college class-room, I think I cannot be far out if I estimate the number of candidates at examinations in Great Britain and Northern Ireland as between one and two million annually.

An examination is a test. What does it actually test? That single question systematically applied both to examinations as a whole, and to their constituents when they are complex, is of great use in getting to the heart of our problem. What affirmation can you make with any degree of certainty about each successful candidate who *passes* a particular examination? What does he know, and, above all, *what can he do*? This takes us at once to the fundamental distinction established by Latham in the seventies of last century (though with a different nomenclature) between the examinations which test what I have called the "utilizable skill" and "knowledge tests."

The examinations of the mediaeval universities from which nearly all our present-day examinations are directly derived were themselves derived from, and correspond to, the tests of utilizable skill conducted by the mediaeval craft guilds for the promotion of apprentices to companions, and of companions to masters. The universities were, indeed, guilds of teachers, and in their most important examination for the mastership, or doctorate, as it was called, the candidate was required to teach in public by the method of "disputation" used by the teachers. The test was a real test of a utilizable skill. But besides that test the universities also used oral tests of knowledge, and from them have been derived papers in "subjects", many of which are not tests of utilizable skill. I do not mean that they are useless, but their meaning is far less definite than that of the other kind of test. Unutilizable knowledge possessed at a given time may be purely

evanescent Moreover, the evaluation of such knowledge is far harder than the evaluation of a utilizable skill We shall return to this point

The system of testing utilizable skills is one now used on an immense scale by the social organism to protect itself from incompetence The point scarcely needs emphasis Legislative measures have been adopted to protect the community as far as possible from incompetent doctors, dentists, pharmaceutical chemists, veterinary surgeons, midwives, nurses, architects, managers of mines, masters of merchant ships, sea-pilots, air-pilots, motor drivers, and the public trusts to the examinations in other important professions such as those of the actuary, the accountant, the engineer, the surveyor, the music-teacher, the teacher of art, the shorthand typist, to protect itself in a similar way It will be generally admitted, then, that examinations designed to test utilizable skill are necessary, and by no means necessary evils, and the training required to attain such a skill and pass the necessary examinations cannot in itself be regarded as an evil The word "cramming" is often used very loosely, with a pejorative meaning If the effect of cramming is, by reasonable methods, to give a person a permanent skill which he needs, there can be no objection to it. On the other hand, if cramming entails over-strain in acquiring knowledge which disappears shortly after the application of the examination test, there is little to be said in its favour.

The word examination is derived from the Latin *examen*, the pointer of a balance. The examination may indeed be not unjustly compared to an instru-

ment like a balance, which measures a "weight" (or a mass), or to a thermometer, which measures a temperature. Such instruments need themselves to be tested. We try to determine the sensibility and the accuracy of every physical measuring instrument. If a spring-balance yields different indications when one and the same person tries to weigh the same body with it at different times, or when different people try to weigh the same body, we regard it as an untrustworthy instrument owing to the lack of consistency of the results. A recent investigation conducted under the auspices of the International Institute Examinations Enquiry¹ has shown that the methods used in certain important examinations are untrustworthy methods since the tests applied to the same material by the same experienced examiner at different times, and by different experienced examiners at the same time, may yield widely differing results. Examining bodies entrusted with the conduct of large-scale examinations have long been aware of this fact, and they take many precautions to reduce the irregularities of the results, but, in the judgment of the present writer, in many cases they do not carry out the investigations necessary to ascertain how far their precautions are effective. They do not know, they can only guess. They do not make the precise tests which would be possible (see *The Marks of Examiners*, p. 338).

Moreover, examining bodies often fail to ask

¹ See *An Examination of Examinations* (Macmillan & Co., 2nd edition, 1936) and *The Marks of Examiners* (Macmillan & Co., 1936), *passim*.

themselves what an examination is intended to test, and what it actually does test. Let me take as an example the examination in French at the School Certificate stage. In this an attempt is often made to test simultaneously the following different skills :

- (1) Translation from French prose into English prose.
- (2) Translation from French verse into English prose.
- (3) Free composition in French
- (4) Translation into French
- (5) French dictation

This is an examination which was investigated in 1931 by the Investigators of the Secondary School Examinations Council¹. I think it is a fair inference from their Report to say that the "capacity to translate reasonably well passages of [French] prose of a straightforward kind" is a utilizable skill which might well be tested by itself at this examination, and which should be so tested. Of the translation from French verse the Investigators said that in view of its extreme difficulty it should be omitted from the French paper (*op cit* p 98). Of French composition (*i.e.* free composition) and translation into French they said (p. 99) that "the level of performance reached by the average candidate in this branch of the subject was in most of the examinations regrettably low". In the "composition paper", it seems, candidates may scrape "a few marks on an

¹ *The School Certificate Examination, being the Report of the Panel of Investigators appointed by the Secondary School Examinations Council to enquire into the Eight Approved School Certificate Examinations held in the Summer of 1931* (H M Stationery Office)

almost worthless performance" (p 103), and in free composition the marking was "generally unreliable" (p 102). Of French dictation, the Investigators said, "taking the examinations as a whole, the standard of performance . . . is regrettably low" (p 100). Yet from 48 to 53 per cent of the candidates obtained a Credit in French. It seems surprising. I suggest that a Credit in French in such a School Certificate examination as I have described must, if the Investigators are to be trusted, be incapable of interpretation in terms of utilizable skill. It certainly gives no information whatever as to whether the candidate who obtains a Credit possesses any single one of the five utilizable skills enumerated above which the paper is supposed to test. It attempts much and achieves little. A Credit has, however, some kind of meaning in terms of "marks"—a subject of far more complexity than may appear at first sight—and so has a Pass.

In a recent address to the National Union of Teachers on Secondary School Certificate Examinations the present writer has drawn the distinction between examinations designed to test a utilizable skill and those which are designed to test progress. When we are testing the utilizable skill we need not worry about statistics at all. Of a hundred candidates all may pass, or none. If a hundred candidates were to present themselves for a job as an air-pilot and none of them satisfied the examiner in the essential subject of visual signalling, his sense of responsibility would compel him to reject the whole lot. On the other hand, if all satisfied him he would cheerfully pass the whole lot, and the same

procedure would apply to motor drivers. But no one would dream of applying such a test to a School Certificate examination, say in French composition, in which no utilizable skill is attained by any appreciable proportion of the candidates. The examiners, then, depend on marks to which no reasonable interpretation in terms of words can be applied, but which yield an "order of merit" and are intended to indicate, not a skill, but progress to a skill. In such a case you might regard as a "tolerable" level of progress justifying a "Pass" that reached or exceeded by 75 per cent of the candidates, and a "reasonably good" level justifying a "Credit" that reached or exceeded by 50 per cent or 51 per cent of the candidates. Here the criterion adopted is what is called a *percentile* criterion. Oddly enough, it is not generally recognized that such a criterion makes the examination in reality a competitive one. But there is an obvious struggle between candidates to reach that fatal 25th or 50th percentile, as the case may be, and if the marks are liable to the vicissitudes of chance, so is the fate of the candidates. I speak of the vicissitudes of chance. We shall see what they are presently, when we mark only for progress, a difficulty as great for a person who is not the teacher as it would be for some stranger to classify a lot of stumbling babies, none of whom can walk, in the order of their progress in the art of walking.

The Investigators have shown that some of the Examining Bodies try to make the best of both worlds and to reconcile the percentile criterion, which depends only on *order* of merit,

with an absolute criterion of merit, and with surprising results. Thus, in History they were shocked by the low marks corresponding to the 49th or 50th percentile, so they resorted to the simple expedient of raising the marks. "Some wholesale adjustments, either by percentage, or by flat-rate additions had to be made",¹ a process singularly akin to self-deception.

In dealing with the kind of uncertainties to which I have drawn attention, Professor Spearman has made the helpful suggestion that in any effective investigation of examinations, we need to keep in mind a broad distinction between two characteristics, the characteristics of "validity" and of "reliability". Some confusion has, however, arisen in the past in the use of these particular terms and I propose to replace the term "reliability" by "consistency".

By "validity" Professor Spearman means the agreement of measurements with the thing measured. We may illustrate the use of this word by a single example. Suppose that an examination at the age of 11+ is intended as a test of promise, and you are to judge that promise by success at a School Certificate examination (or a degree examination) in later life. If we find that there is little relation between success at the earlier and at the later examinations, the 11+ examination has obviously little validity; it does not measure the promise which it is intended to measure.²

¹ See *Report of Investigators*, pp. 82 and 156.

² Professor C. W. Valentine, in his interesting book on *The Reliability of Examinations* (University of London Press, 1932).

By "consistency" we mean the degree of agreement between any two independent sets of measurements of the same set of things. If an examination test, like the untrustworthy balance, yields different results when the answers of the candidates are valued by different independent examiners at the same time, or by the same examiner at different times, its consistency is said to be low. If the consistency is low, obviously the validity is low. we can attach little meaning to the test. Low consistency involves low validity. But, as Professor Spearman points out, and this is a matter of importance, the converse is not true. You may have a test with high consistency, but low validity. It is conceivable, for instance, that a particular test in English grammar at the 11+ examination might yield highly consistent marks, but yield very poor results in forecasting the later successes of the pupils.¹

A series of investigations was carried out by Dr E C Rhodes and the present writer under the auspices of the International Institute Examinations Enquiry on examinations of widely different standard and character, including Free Place examinations, School Certificate examinations, University Honours examinations, and *viva voce* examinations on lines similar to those used by the Civil Service Commission for the senior branches of the Civil Service. These investigations showed that the consistency

uses the word "reliability" where we have used the word "validity". Mr W F Hepburn has made the suggestion that "validity" should be replaced by the term "relevance". I prefer the slight change to "relevancy".

¹ For an actual example, see *The Marks of Examiners*, p. xiv, footnote

of the tests, and hence their validity, was distressingly low. An investigation made by Mr. Charles Roberts and Professor H. V. A. Briscoe for the Durham University School Examination Board revealed inconsistencies as surprising and as alarming.

I shall only quote here two examples of our own investigations, in both of which marks were allotted, not by examiners acting alone, but by examiners acting as members of independent Boards

The first investigation was one on answers to question-papers in French at a School Certificate examination. The material submitted to the Boards consisted of two printed examination papers which had served at a recent School Certificate examination and excellent photographic reproductions of fifty "scripts" (answer-books) of different candidates furnished at the original examination. Each Board of Examiners, consisting of a Chief Examiner and six assistant examiners, settled its own scheme of marks, and the Chief Examiner did his best with the use of "trial-scripts" to get complete agreement with regard to the method of marking among his colleagues. I shall not deal here with individual differences between examiners, but only with the differences of the averages of the members of each Board, in which the individual differences are reduced to a minimum. The average marks of Board I for the piece of dictation were 81.5 per cent of the maximum, and of Board II were 67.5 per cent of the maximum; whereas the average mark of Board I for a piece of translation from English into French was 27.9 per cent of the maximum and that of

Board II was 51·8 per cent of the maximum¹ Here you have eliminated as far as possible the chance disagreements in regard to single candidates between individual examiners You have, embodied in figures, the grave disagreements of two Boards in regard to fifty pieces of work in each case I should add that all the examiners were experienced men or women chosen from the panel of examiners of a single examination authority, accustomed to team work. For even more striking illustrations of the discrepancies of examiners in judging written work, and for the amazing changes of opinion to which one and the same examiner may be liable when he judges the same work at different times, I must refer to our original report (*The Marks of Examiners*, chap. 1).

The second investigation I wish to mention was on the interview examination, not on a "subject", but of a general character designed to test "alertness, intelligence, and general outlook", as used not only in Civil Service examinations but at interviews for the selection of candidates for public and private appointments generally. A prize of £100 was offered (to ensure that the examination should be taken seriously) and the candidates were selected so as to comply as far as possible with the regulations for candidates for the Junior Grade of the Administrative Class of the Home Civil Service (the technical name for the appointments of the highest grade in the Home Civil Service open to competition). The candidates were required to be within the age-limits prescribed for the Civil Service Examination of the

¹ Further details are given in *The Marks of Examiners*, chap. III

year (1934), and to furnish statements from the authorities of the universities to which they belonged certifying that they were suitable for the Home Civil Service. They had received their training in one or more of the following universities and colleges: Oxford, Cambridge, London, Bristol, Glasgow, University College, Nottingham, and University College, Southampton. Each candidate filled in a form similar to that required by the Civil Service examining authorities, to which was attached a confidential report from a tutor or other university authority and a report by the candidate himself on his life and education. Copies of these documents were furnished to each of the examiners.

Twelve men and four women with excellent university records were selected for our purpose from among those who applied for admission. Two Boards, one consisting of five distinguished persons and the other of four, all accustomed to interviews of this kind, were appointed. (The difference between the number of members of the two Boards was accidental and was due to the failure of one of the examiners to catch his train to London.) The instructions given to the two Boards were identical and each candidate was examined on the same day for not less than a quarter of an hour and not more than half an hour by each of the two Boards, and each candidate, after being examined by a Board, was segregated from those who had not yet appeared before it. The candidate who was placed first by Board I was placed 13th by Board II, and the candidate placed first by Board II was placed 11th by Board I. 300 marks were allotted as a maximum,

and, as would be expected, there were no cases of complete agreement between the two Boards. In the four extreme cases of disagreement the difference of the marks allotted by the two Boards was 92, 70, 70, and 70. The average difference of the marks allotted by the two Boards was 37. The results point to a grave want of consistency in the test, and indicate how much the result of such an examination depends on chance. The "coefficient of correlation", as it is called, between the marks of the two Boards was 0.41, where unity would indicate complete agreement.

The special importance of the results of this interview investigation lies in the fact that such an interview is used for the very important purpose of selecting candidates for the public services.

There can be no doubt that in the written examinations used for selecting such candidates there are just the same kind of inconsistencies as those which we found in university examinations, so that we have great uncertainties alike in the written and oral parts of the examination.

In a democratic system the method of selection by examination first introduced by Macaulay plays an important part in our whole social system. It has the great advantage in a democratic country of avoiding jobbery, and in many ways it has justified itself by the admirable way in which the Home Civil Service and the Indian Civil Service have fulfilled their function. It does not follow, however, that the method of selection is impeccable, and, as I have indicated, it is certainly true that a large element of chance enters into the determination

of the order of candidates, as was shown long before our own investigation by Professor F. Y. Edgeworth in his little-noticed papers on the Statistics of Examinations, published in 1888 and 1890. It should be pointed out that if the number of the first-rate candidates largely exceeds the number of the places to be filled, the element of chance is of no great importance to the State, though it is of importance to the individual candidates. Another point must be made. While it is true that psychologists have failed to come to any agreement as to the definition of the term "ability", it is certain that in examinations like the higher examinations for the Civil Service, which test proficiency in a number of subjects, a selection has been made of persons who are, on the whole, well able to perform the varied kinds of jobs required of them. But in an interesting essay on "Examinations and the Social Needs of the Modern World"¹ Dr. C. Delisle Burns has suggested that the Civil Service examinations have not been sufficiently modified to meet the increasing complexity of our civilization, that "our customs, our methods of government, our technique of production, as well as our memorising of acquired knowledge belong to the past. But it seems likely that the transformation through which Western Civilisation is now passing will change the balance between *tradition* and *originality* and give some importance to the ability to face new issues. Our tests of competence, therefore, should have in view the need of civilised life for men and women with that ability."

¹ From *Essays on Examinations*

I myself regard it as more than doubtful whether originality can be tested in the examination room so well as in the laboratory and the library. The remedy for the defect which Dr. Burns points out is to choose candidates beyond the age-limits that are now prescribed (21 to 23 years of age), after they have given evidence of their power to produce work of their own.

In 1936 the number of posts filled by the agency of the Civil Service Commissioners (first constituted in 1855)¹ was 28,569, to which 18,049 males and 10,520 females were appointed; of these, however, only 12,300 were recruited by means of written or interview competition (5289 males, 7011 females). The full number of the candidates is not given in the Report of the Commissioners, but it is stated that the number of the Selection Boards on which they were represented was 208, the number of candidates interviewed was 5587, and the number recommended for appointment was 2325. The Commissioners were also represented on 19 Boards conducting *viva voce* tests which interviewed 3063 candidates.² As is obvious from the foregoing figures, the work of the Civil Service Commission is not limited only to higher posts. They select either by examination or by nomination officials of all grades, clerical and technical.

Another set of competitive examinations of great national importance and of which the origin goes

¹ A brief account of the Civil Service Commission and of their functions is given in the *Conspectus of Examinations*, pp. 155-156.

² Report of His Majesty's Civil Service Commissioners on the year 1936 (H. M. Stationery Office, 1937).

much further back than the Civil Service examinations are the examinations for scholarships, which have had a continuous history for more than 600 years, and may be traced back to a far earlier time. As Sir Michael Sadler tells us in his masterly study of "The Scholarship System in England to 1890 and some of its Developments";¹ "One of the chief instruments of which the English educational system has continued to make an ever extending use is the award of scholarships as a means of passage from one institution to another, from one layer or type of education to a more advanced course of study, as an incentive to industry and as a reward for intellectual success."

I have spoken above of the scholarships awarded on the Special Place examination, but, as Sir Michael Sadler indicates, the system of awarding scholarships on the results of examinations is a characteristic of our whole examination system. The *Conspectus of Examinations* to which I have referred shows the great number of scholarships awarded by local education authorities. Almost every secondary school other than those under public control, every college, every university in Great Britain and Northern Ireland, has scholarship examinations of its own.

How far does the present scholarship system give equality of educational opportunity to children of equal ability in all classes? The question raises at the outset the definition of the term "equal ability", a subject far too wide to be discussed in detail here. It should, however, be pointed out that an immense

¹ *Essays on Examinations*, pp. 1-78.

amount of work has been done on the subject with the help of those "intelligence tests" to which I shall refer again later on. Intelligence tests have been regarded as tests of inborn ability largely because it has been shown that with certain tests what is called the "intelligence quotient" ¹ is independent of age. A recent and important book called *Political Arithmetic—A Symposium of Population*, edited by Professor Lancelot Hogben, F R S.,² contains three chapters, two on "Ability and Opportunity in English Education", by Professor J L Gray and Dr Pearl Moshinsky, and the third, by D. V. Glass and Professor Gray, on "Opportunity and the Older Universities—A Study of the Oxford and Cambridge Scholarship System". They are pioneering studies and give important statistical information.³ On the other

¹ The intelligence quotient of an individual (being a boy or girl not over 16 years of age) is defined as the "mental age" of the individual divided by his or her chronological age $\times 100$. The mental age is determined in the following way: a series of intelligence tests is administered to a large number of individuals, generally some thousands, of different ages, and the mental age which corresponds to a certain aggregate mark earned on these tests is the average age of the pupils who earn that mark. Thus, if the average age of those pupils who earn 150 marks on these tests is 12, any pupil who earns 150 marks, whether his age be higher than 12 or lower than 12, is said to have the mental age of 12. If a boy of 10 has the mental age of 12, his intelligence quotient is $\frac{12 \times 100}{10} = 120$.

² Allen & Unwin, 1938.

³ Although I have termed these studies "pioneering" it is right to point out that investigations on some of the same topics are recorded in (a) *The Poor Student and the University, a Report on the Scholarship System*, etc., by G S M Ellis (Labour Publishing Co., 1925), in which it is stated (p. 24) that the percentage of elementary school boys and girls who reach a university is 0.73, (b) the interesting book of a more general character by Mr Kenneth

hand, it is possible that the methods which the authors have used may be criticized in detail by subsequent writers. At the outset, indeed, Professor Hogben himself (*op cit* p 333) denies "that differences in intelligence quotients are a reliable index of inborn endowment", independent of differences in the family environment. Gray and his colleagues, as an indication of ability, use not the intelligence quotient but what is called the Index of Brightness (*op cit.* pp 343-344) used by Otis, one of whose intelligence tests they employed. This characteristic (designated I.B.) is defined as the difference between the score of an individual obtained on a given test and the norm for his age, and this index, unlike the intelligence quotient, is stated to be independent of age for a selected group of individuals of high intelligence.

Gray and his colleagues carried out a large number of psychological and statistical investigations on typical sets of schools and school populations. The following are some of their more important conclusions. They state that, according to statistics of 1931-32, 6.6 per cent of individuals of elementary school origin are afforded the opportunity of secondary school education at the expense of the State, that, of the whole school population, more than 50 per cent of the "able" pupils are without the opportunity of higher education, and that taking children of equally high ability, seven

Lindsay, *Social Progress and Educational Waste, a study of the Free Place and Scholarship System* (Routledge & Sons, Ltd, 1926), (c) *The Poor Student and the University, a Report on the Scholarship System* (Allen & Unwin, 1933)

fee-paying pupils (*i.e.* pupils whose parents can afford to and do pay fees) will receive a higher education for every one free pupil, that at the very high level of ability reached by the uppermost one per thousand in the general school population, two-thirds of the total originated in elementary schools, of whom 70 per cent are of wage-earning parentage. Of the entire group of such exceptional individuals 50 per cent are the children of wage-earners [a very large class] and 33 per cent are the children of members of the higher social and professional classes [a much smaller class] (*op. cit.* pp 374-375)

Some of the details of the statistics given by Messrs. Glass and Gray have been challenged by Mr Kenneth Lindsay, Parliamentary Secretary to the Board of Education,¹ and an explanation of the differences between Mr Lindsay's figures and those of the authors above quoted were given in a letter to *The Times* of July 5th, 1938, by Mr Glass. Mr Lindsay (on the basis, it appears, of information furnished by the University Grants Committee) stated that in 1934-35 ex-elementary school-children formed 42 per cent of the full-time undergraduate population of all the universities of England and Wales (excluding undergraduates *not* coming from England and Wales), while the corresponding figures for Oxford and for Cambridge were 22 per cent and 23 per cent. Glass and Gray had found that, of the total male undergraduate population of the British universities, only 28 per cent were ex-pupils of elementary schools, and the corresponding figures

¹ In a speech reported in *The Times* of June 21st, 1938

for Oxford and Cambridge were 12 per cent and 13 per cent respectively. The differences between the figures of the University Grants Committee and those of Glass and Gray are very great. The two sets of figures are based on different hypotheses, and neither set is complete. Mr. Glass agrees that (for reasons too long to explain here) the figures of himself and his collaborator are too low, but he says "it is nevertheless true that no one in this country really knows how many ex-elementary school boys or girls there are in the undergraduate population of the universities, and particularly at Oxford and Cambridge", and he suggests that a special inquiry on this point is needed. It seems, at any rate, clear that at present there are not equal educational opportunities for all equally gifted individuals, independent of their class environment.

With regard to their statistics Glass and Gray make certain comments, of which the following may be quoted.

It is perhaps safe to say that non-Elementary school boys at the Universities of native origin amounted to about 20 per cent of their appropriate age group. Their chances of proceeding to any university were thus about 30 times greater than those of ex-Elementary school boys, and, in the case of Oxford and Cambridge, perhaps 90 times as great (*op cit* p. 422).

In 1933-34 "Public" and "Private" schools [*i.e.* schools not receiving Government grants] obtained 78 per cent of all college entrance scholarships (open and closed) at Oxford, and 74 per cent at Cambridge. In 1913-14 the corresponding figures were 89 per cent and 85 per cent (*op cit* p. 469).

When we consider their respective populations Public

EDUCATING FOR DEMOCRACY

Schools obtained about 6 such scholarships per thousand boys, and other Secondary Schools 0.6 per thousand, giving a ratio of about 10 to 1 in favour of the former (*op. cit* p. 469)

Taking open scholarships alone, 53 per cent are awarded to pupils of Public and Private Schools, whose chances of winning them are between 3 and 4 times greater than those of other Secondary School boys (*op. cit* p. 469)

The fifteen most expensive Public Schools obtained an average of 50 per cent of college scholarships awarded to all Public Schools (*op. cit* p. 469)

In an interesting article entitled "The Ladder of Education" (published in *The Times* of June 16th, 1938) Sir William Beveridge has commented on the results recorded in Professor Hogben's volume. He says that there is no doubt that the "maladjustments which they reveal between the distribution of natural ability and opportunity have some of their roots deep in the structure of human society. They are never likely to be corrected completely, and the State which attempted complete correction would be rash indeed." He draws particular attention to the wide distribution of ability throughout the population, and to the statement that there is no shortage of gifted children in the community.

Before leaving the subject of the ordinary written examination, I may point out that little use has been made of the examinations in which textbooks are allowed—examinations designed to test the ability to obtain information from books with rapidity and accuracy—a far more useful skill for most people than the ability to memorize masses of facts for reproduction in the examination room. We are still to a large extent governed by traditions

dating from the time when books were rare and expensive. One of the advantages of the objective tests to which I now turn is that the demands on the unaided memory are much less than those in the essay-type of examination, though it must be admitted that they do not test the power of co-ordinating and presenting statements of facts, and of comparing different views of the same facts.

I now turn to another aspect of the subject. The development of what are known as psychological tests by Galton in this country, J. M. Cattell in the United States, Binet in France, and later in England by Spearman, Winch, Ballard, Burt, Godfrey Thomson and others, has led to a new technique of examinations, known as objective or new-type tests, in which a large amount of the uncertainty of marking—so characteristic of examinations in which answers are of the essay-type—is eliminated. To any single question one and only one correct answer is possible. While very important contributions to this subject have been made in this country, the method has been developed on an immense scale in the United States, especially through the influence of Professor E. L. Thorndike and his school, of which Dr. Walter Jessup, President of the Carnegie Foundation, Dr. W. S. Learned, and Professor Ben D. Wood, Director of the Co-operative Test Service, are among the most prominent and distinguished exponents. A book by Professor I. L. Kandel, of Columbia University, on *Examinations and Their Substitutes in the United States*, gives a masterly exposition of the whole system, and another remarkable book on the subject has just been issued by

Dr. Learned and Professor Ben D. Wood, called *The Student and his Knowledge*, a report on an investigation known as the Pennsylvania Inquiry, one of a group of inquiries and tests financed by the Carnegie Corporation since 1915 at a cost of more than \$3,000,000. In the Pennsylvania Inquiry more than 55,000 individuals have been tested, the object of the inquiry being to test individuals over so wide a field that it covers practically the whole of their assimilated knowledge. The main object of this immense investigation is not to pass or to plough, but to use tests as a method of educational guidance for individuals. In connection with these tests great use is now being made in the United States of cumulative school records, which have already been introduced in this country by the Education Committees of Kent and of Wiltshire. It is an essential feature of these records that they include not only the personal judgments of the teachers, but the results of objective tests which have been standardized by being applied to thousands of individuals. It is well recognized that the construction of tests of this kind is a matter for experts, and for experiment. The tests cannot be improvised: they must be constructed by trial and error, and adapted to the general level of the schools for which they are intended, and they must be continually varied and brought up to date. They are not intended to crystallize education, but to follow educational developments. In 1930 the American Co-operative Test Service was set up, and received from the General Education Board a sum of \$500,000 for the purpose of preparing over

PLACE OF EXAMINATIONS IN THE SOCIAL SYSTEM

a period of ten years a series of tests adequate in principle, sound in construction, and of measurable validity and comparability. There is no more urgent need for education in this country in my judgment than the creation of a similar series of tests suited to our own conditions.

I have not dealt in this chapter with the tragedy of the failures under our present system¹. The object of the examination system advocated by the new school in American education is, as Professor Kandel himself points out, the ideal of educational administration advocated by an English expert, the late Sir Graham Balfour: "To enable the right pupils to receive the right education from the right teachers at a cost within the means of the State under conditions which will enable the pupils best to profit by their training."

It is the same ideal which inspires the new projects of legislation now under consideration in France.

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¹ I have referred at the beginning of this chapter to the tragic wastage at the School Certificate stage, and have suggested a remedy in the address on *Secondary School Examinations*, etc., mentioned in the Bibliography (p. 304).

EDUCATING FOR DEMOCRACY

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CHAPTER XVIII

EDUCATION FOR PARENTHOOD

IN a volume dedicated to the discussion of the techniques of education in a changing world it may seem startling that the subject of parenthood and training for it should be included

In a large measure education, as it has been understood in the last fifty years, has been concerned with general education designed to fit the individual for any walk in life to which he or she might be called, but in earlier times education was much more specific in quality, because the needs of the community growing out of its form and functions was for the cultivation of particular skills. It is true that education to-day extends upwards to the level of the universities, where special discipline of the sciences and the arts are cultivated, and into the field of technology, where the fruits of the academic studies are transformed into the particular skills needed in the economic and cultural life of the community

Throughout the whole range of general and special education the personal relationship of pupil and teacher is subordinated and even submerged in the interest of the general cultivation of the mind

and the special training of skills. In earlier times, however, this personal relationship was much more in evidence even if it were not consciously encouraged. At the very root of education lies the child influenced by the parent, and, although in the educational system the role of educator falls to the trained specialist, it is *ab initio* a parent-child relationship, inasmuch as the natural role of parent, in animal life as in human society, is to prepare the offspring for such life situations which it is destined to meet and to master. In fact the study of primitive society makes clear to us that children were the vehicle for the passing on not only of the traditions of the community, but for adding the parental gains to the generations to come. The profits of experience accumulated by parents were reinvested in the children, and, although the technique of parenthood was bound hand and foot by tradition, nevertheless parental ability to use the technique has always been a measure of the child's capacity to carry on the tradition and to profit from the experience that the parents themselves had gained in the course of their own lives. In the same manner as the fruitfulness of an educational system will depend upon the skill and the intellectual and moral integrity of the teacher, so also the success of parenthood as an educational role will depend upon intellectual and moral integrity of the parents. For it is only through the intellectual and moral integrity that skill in the handling of human beings is possible. Objectivity has always been regarded as an essential mental attitude in all human efforts to shape the world, and, despite the fact that our needs and wishes colour our attitude

towards objects, we must pursue our efforts to master the world and to influence other human beings by cultivating objectivity. Now, in the child-parent relationship there are both conscious and unconscious factors emotionally determined which cannot be entirely eradicated. Nay, further, it would seem as if the very quality of such relationship would be destroyed or distorted if we attempted to eliminate such emotional factors as we are obliged to eliminate them in the fixed sciences. Even if our pursuit of scientific truth for the control of nature is governed by our instinctual needs, we have, in the course of scientific development, ruled out as much as possible emotional bias. Science has not only been from time to time at war with the vested interests of religious prejudices, it has even been subject to the disturbing effects of the prejudices of schools from within its own field of operation. The child-parent relationship is much more clearly bound up with instinctual needs and with emotional attitudes and, while tradition has consolidated the gains of social evolution, it can and does consolidate emotional attitudes in such a way as to militate against the free development of children. In the cycle of the generations—children ultimately becoming parents who themselves beget children—the drag of ancient influences arrests development. Parents constantly rationalize their own emotional bias vested in moral and social attitudes, thereby distorting the very meaning of education, which is the drawing out of capacities.

This essay concerns education for parenthood, and only in a less degree the educational role of

parenthood, and, if it is once admitted that parenthood is an educational task, parenthood must accept the discipline which any such task imposes upon its agents. Unconsciously, of course, being a parent is a biological function, and therefore in a large measure operates outside the field of awareness. In the language of modern psychology, particularly of the psycho-analytic kind, the biological processes of human beings are in a large measure unconscious in character. As Freud has said, we are never aware of an instinctual activity, we are only conscious of its goal and of the objects upon which it operates or through which it is satisfied. Retrospectively, we may be able to trace the eventful path it has pursued or its wanderings. No one can be aware within himself of the actual character of his or her sexual needs, nor can we describe parental feeling. In everyday life we may be aware of our restlessness prior to satisfaction and of the objects through which the pacification is obtained. The parent is child-conscious and is only retrospectively conscious of parenthood. It therefore requires a considerable retrospective analysis to understand the subjective factors which underlie our apparently objective interest in our children. It is equally true to say, as analytical psychology has shown, that however passionate our devotion to a child may be, or however devotedly we may dedicate ourselves to our family group, we bring to that passion and that devotion many subjective determinants disguised in moral and social attitudes and rationalizations. In the average case the biological role of the parent who is physically healthy can well be left to look after itself. Normal sexual capacity

passes over into normal maternal capacity. The majority of women would be able to bear their children, suckle, and protect them without the aid of obstetric specialists and dietitians; but, at our level of social development, it has become increasingly necessary to obtain skilled advice for the disturbances of pregnancy, the difficulties of labour, and the special problems of nutrition.

On the whole, nature meets us more than half-way in these respects. Such disturbances as do take place in the course of these processes are due to social causes rendering difficult the life of the pregnant and suckling mother, and to individual causes which render the mother incompetent, anxious, or even hostile in regard to her functions.

With regard to the physiology of parenthood, particularly the maternal role, the communities of the west are making increasing efforts to educate mothers and prospective mothers in such a way as to increase their competence, which in its turn tends to allay anxiety. Pre-natal clinics are springing up everywhere to which pregnant women may go in order that they should learn how to keep their bodies healthy and resilient for the coming task of labour. They are in addition taught on the model and on the living babe how to hold a child to give it security and comfort while being fed, bathed, and groomed. They are also instructed in those elements of dietetics which will help them not only to maintain their own health, but how best to produce a healthy strong-boned infant. They are encouraged to take such exercises as will maintain a correct posture of the body and tone of muscle as will

obviate some of the difficulties and abnormalities of labour. When the child is born, the education of the mother can be continued through attendance at Infant Welfare Clinics, where the health of both mother, and child is not only maintained by the advice which is given but by the education of the mother, so that she can apply the lessons in her own home without having to run anxiously to the specialist to meet the difficulties for her. The ideal clinic of this kind should be one, not to which the mother can fly in distress but where she can be taught the technique of maternity so that she acquires self-reliance and assurance. In this way knowledge and the power that it gives dissipates the anxiety which springs from ignorance. For the fear of damaging the child which she has borne can be a constant terror to young mothers, and incidentally her terror and anxiety are conveyed to the child who, sensing the mother's insecurity, becomes itself insecure, anxious, and disturbed in health.

So much for the education of the mother on the physical aspects of parenthood. What provision is made for the psychological problems of parenthood, and what are the forms and origins of these problems? Apart from such facts as the parents of newly married couples impart, little or nothing is done to prepare married people for the role of parenthood. Mothers not infrequently tell the "facts of life" to their daughters, who could probably to-day educate their parents; but it is rare for the average mother to tell her daughter anything about the task of parenthood. If a girl comes from a moderate to large family, she has in all probability

acquired a day-to-day knowledge which cannot be discounted, and in the artisan classes in particular, where the mother is obliged to obtain the co-operation even of her young daughters in the care of younger children, mothercraft is imbibed as a part of the affairs of everyday life. Thus by the time the little girl reaches adult stature, she has willy-nilly obtained an education in motherhood which is probably not unlike the education a girl obtains in the life of a primitive community. With the growing emancipation of women which has led to their absorption into the economic life of the community and to their participation in the professions hitherto confined to men, women from adolescence onwards acquire a mental orientation which is away from the cultivation of the domestic arts, which include parenthood. But, as the majority of women seek fulfilment in marriage and maternity, even those who have been absorbed in the economic life of the community must need a knowledge which marriage and maternity demand. To-day many domestic tasks are delegated, and even some of the tasks of motherhood are handed over to the crèche superintendents and to private nurses, but the fact remains, as some psychologists have held, that the upbringing of children is never complete and the emotional factors are rarely satisfactorily met, unless a proper child-parent relationship is established from pregnancy onwards. The psychological factors of this relationship are of paramount importance and the mind of the mother in particular, and of the father if to a less degree, must be attuned to a task which, although biologically predetermined, can be

hopelessly distorted not only by ignorance of child life itself but by peculiarities in the psychology of parents. These can be obviated by self-knowledge, which is, after all, the corner-stone of education.

There are two aspects in the preparation for parenthood which call for separate discussion, although they are closely interdependent. Firstly, there is the preparation for parenthood or the attuning of the mind of married men and women to the function of parenthood, and, secondly, we have to consider the education of the parent to meet the needs of the child as a developing human being with tendencies and rights, and with duties to the society of which it will ultimately form a unit. The second would be the sole topic of this chapter if parents came to their task with that capacity for objectivity which can only be required as a result of an inner harmony and a freedom from mental blind-spots, or what we now choose to call unconscious mental conflicts. These not only render their possessors unhappy and inefficient but qualify their interpretation of other persons. When we read in the press of parents who have been guilty of unbelievable offences against their children, or of men and women who after divorce or separation show complete indifference as to the custody of their children, we may well wonder how they could have arrived at such behaviour, nay more, how they could have entertained at the very outset the prospect of becoming parents. Modern psychological analysis is beginning to clarify this obscure problem of human behaviour. But it has only been able to do so through the discovery that, whatever we may

believe to be our conscious motives, they are deeply dyed by unconscious conflicting passions which are overcome by the various mechanisms which psychoanalysis in particular has clearly demonstrated. That is to say, these unconscious conflicts produce mental tensions which are only partially overcome by repression, *i.e.* by shifting from consciousness the problem itself. As the human organism, like all others, exists for action, the path of adjustment to reality, *i.e.* to objective situations involving other persons in particular, becomes a side-track instead of a high-road. Sometimes unsuccessful repression leads to neurosis, but in the vast majority of cases it leads to an organization of the personality which we call character, and it is this ultimate character formation which gives to people their moral pattern and their method for dealing with others. Deep investigation of character formation shows us to what extent personality, as the word implies, is but a mask of underlying tendencies. In the best of us it is a tissue of subterfuges and compromises, many of them accepted in social intercourse because we all feel to some extent that our masks are tarred with the same brush. The process of character formation has its origin in the early years of life, undergoes a reformation in adolescence, and has its testing times in the critical phases of life which are to follow, *i.e.* at the choice of a profession, at the time of choosing a mate, and at the period when adjustment to the family of one's own creation becomes not only a personal but a social necessity. The deep analysis of normal and disturbed human minds is making increasingly clear the fact that the early

activities of the child play a part in character formation, and, above all, the attitude of the child towards its parents expressed in the tangle of love and hate motives plays a dominating part in the formation of moral disposition, instinctual control and attitude towards other persons. It is found, for example, that bodily activities which bring mother and child so closely together produce an intensification of certain character traits. The happily breast-fed babe has already laid the foundation of a satisfied disposition ready to look amiably upon a fruitful world which is to him an abundant cornucopia as liberal and satisfying as the maternal breast. It may, indeed, produce the type of character which expects much of the world and gives little in return, but we know from deep analysis that such perfect satisfaction is never obtained in the months of suckling, but that the breast becomes an enemy as well as a friend, not always abundant, rhythmically snatched away sometimes before satisfaction is complete. To this extent, therefore, character traits associated with this early activity become complicated, and the mother who is bound up with them becomes the prototype not only of good, but of frustration also. The reader must turn to the standard writings of the analysts in order to obtain a clear comprehension of these roots of early character formation.

The attitude of the growing child towards its parents is by no means as simple as the standard Oedipus complex of superficial psycho-analytic studies would lead some to think, but it is at least clear that a child's feeling of security with regard to

its parents, based upon a good love relationship, forms the foundation of its future adult attitude towards men and women. A boy who has felt the lack of mother-love, or who has been unduly valued by the mother, herself using him unconsciously for private gratification and comfort, will, when he becomes a parent, expect special attentions from his wife, putting himself unwittingly in the position of the child as he once was. And, furthermore, in his attitude towards his children, he may expect of them obedience which *he* grudgingly exhibited, or a love relationship not unlike that which he longed for in his childhood. This nostalgia for the past is sometimes assuaged through our children, but not infrequently it has a bitter-sweet quality which may make some vaguely grudge the good which their children might enjoy. Strange though it may seem, in the process of emotional development culminating in parenthood, there is a reversal of the generations, for many a parent treats his child as if it were a parent itself, its presence seems to evoke many infantile attitudes. Sometimes a father may see in his son and the mother in her daughter traits of their own parents, the effects of which were not always happy. It should therefore be clear that when a man and a woman arrive at parenthood, they have come to it with a pattern of emotional dispositions organized as character traits which may interfere very materially at times with their children's welfare. It has been demonstrated through psycho-analytical investigation that conscience or our moral nature is largely unconsciously determined. This determination rests upon the child's attitude towards its

parents, an attitude which is woven firstly of the love and respect it bears them, and, secondly, of its identification with them. A nicely balanced love and respect relationship will produce identifications and ultimately moral character formations which make for the benign acceptance of moral rules and social norms of behaviour. But in some cases, indeed in not a few, the moral nature formed in this way can be tyrannical and may make demands upon its possessor which gives to character some of the qualities of a straight-jacket. Conformity with this rigid moral nature may give a stiffness to character which is not the most amiable quality in moralists and in parents. Sometimes this restriction imposed upon the self becomes unbearable, and escape is only possible by rebellion which recoils upon the self again, or by an insistence that others should be equally subject to the same restriction of the impulse life. Persons who have been brought up in such a way as to develop moral natures of this kind may become exacting parents, harsh in the extreme and all too ready to ignore in their children that desire for elbow room and free expression which they themselves had longed for. But this longing, repressed by the machinery of their moral character, is unconscious to them. All that they consciously feel is that they must be good parents by making their children good. It would appear from this exposition that an insoluble impasse is reached by the time we become parents, for we cannot see our children objectively because we do not know ourselves objectively. The sins of the fathers seem fated to be visited upon the children. It is true, therefore,

to say that only through self-knowledge can men and women safely embark upon the task of parenthood. In other words, as the mechanisms and motives of the mind are largely unconscious, nothing but a full dress analysis would wash away the disturbing effects of mental conflicts as old as childhood. This would indeed be a counsel of perfection too radical to advocate because impossible of general achievement. Fortunately the deviations of character in the average person are not so profound that they should in all cases produce ill-effects as far as children are concerned, nor need the happiness of parents themselves be hopelessly destroyed in consequence of minor deviations. But, inasmuch as prior to marriage few of us know how we are going to react to children, particularly to our own children, some measures even less radical than analysis may be possible in order to meet the problems that arise in family life. Can there be created such an institution as a school for parents? It has already been stated that mothers have much to gain in accepting the teachings of Infant Welfare Clinics. The work of these clinics should be both extended and deepened in order that they should include not only the study of the physical needs of children, which physiology and bio-chemistry have made clear to us, but the study of the psychological implications of the physical needs of children. It has been said that the act of suckling contributes to character formation. Psychologists attached to a Mothercraft Clinic could explain to mothers the fact that the breast is not only a milk-producing organ but is in the elementary mind of the child both a

good and at the same time a dangerous "experience" It should be made clear that the child possesses it as if it were its own property, and that the too rigid application of a time-table may engender feelings of frustration in the child. It may well be illustrated to them that the perpetual smile on the face of primitive peoples, adult and children, is in no small measure due to the liberality with which the mother feeds the child anywhere and almost anyhow. Furthermore, the psychologists could explain to mothers that the washing of a baby and the regulation of bowel function has its psychological effects. Some psychologists, Kunkel in Germany, and to a less extent the late Dr. Suttie in England, stressed the opinion that the early relationship of mother and child was the birth of social feeling inasmuch as mother and child implied a "We" relationship before it became a "You and Me". In fact, that social feeling originated in the mother-child communion and mutual understanding which sprang from the mother's loving handling and the child's primitive appreciation of the pleasant feeling implicit in the relationship.

The feeling of security which is necessary in order that the child's fear reactions should not be incubated grows out of the physical handling of the child, and on this subject a Mothercraft Clinic can contribute to the education of mothers in the early psychology of the child. The average mother will naturally do all that she can to make the child feel secure in the way she holds it, but her insecurity, which may be in no way connected with the baby, may originate at a time anterior to her pregnancy and may be

a part and parcel of her emotional disposition. Furthermore, being pregnant arouses fear in some women, although nature is so insistent upon the protection of the species that there is engendered in the mind of the pregnant woman a poise and a feeling of benign resignation which affords a protective barrier against any injuries arising in the mother as a result of her possible emotional stresses. During pregnancy nature seems to seal off the woman from external dangers, so that the developing foetus is protected from harm. But there are some women who, up to pregnancy apparently normal, suddenly have awakened in them certain infantile and adolescent dreads of the thing which now possesses them. Instead of their possessing the treasured infant, the infant becomes a foreign body, almost a demoniacal possession, which is ultimately going to rend them asunder, injuring their bodies and making them lose all the grace of innocence which they believed virginity bestowed upon them. Expectant mothers can be educated to some degree to face the normal functions of pregnancy, labour, and lactation.

The education of mothers to meet not only the needs of the growing child but its independence as a human being presents greater difficulties. But in an extended Mothercraft Clinic mothers can receive instruction on the subject of their personal contribution to the happiness of their children. It can be made clear to them that a child is not rendered irritable and unhealthy through dietetic causes alone but through anxiety, resulting from its inner fears of losing her or even of attacking her. A mother

can be made to realize that even love, passion though it may be, should be expressed through an equable temper. Above all, a parent should be taught to realize that young children have a sense of equity and that a simple appreciation of cause and effect is not unknown to them, and still more, a mother's anxiety can be allayed when she knows that a child's animistic interpretation of the world is not the result of abnormal mental development but a way in which it must view the world with the simple emotional vocabulary it possesses. The child's imagination should be accepted as a way of thinking based upon images, emotionally charged, which help the child to handle the burden of everyday experience interpreted in the light of its own desires rather than that of an obstinate external reality. The psychological facts can be imparted in non-technical language and through the multitude of examples with which every medical psychologist should be fully armed. Parents can be educated to accept the fabrications of young children, not as moral obliquities, but as wishes run riot. They should be able to relax their own moral demands in the face of the child's alleged untruthfulness. In fact, to realize the engaging phantasies of children which are realities to them, can help many parents to soften their own moral stiffness. One is constantly aware in oneself and in others of the softening effects of parenthood, but this mellowing of our natures only comes through the acceptance of the special qualities of the child mind, and this very acceptance can unbend and loosen the conflicts which have been lying buried in ourselves.

The next point in education for parenthood is a

consideration of the effects that parents have on the moral development of children. It has already been stated that the parent's moral nature has itself been derived from his or her parent-child relationship. Mothers and fathers can be told that whether or not they impart moral judgments to their children, or demand certain forms of behaviour which establish these moral judgments, the child will nevertheless organize its system of moral controls on the basis of its everyday estimate of its parents. It therefore follows that parental example is everything. Consistency in love and authority, equity as between child and child, truthfulness with regard to their own coming and going will lay the foundations in the child's mind of the concept of the good and the virtuous parent. The parents can be made to realize that undue modesty with regard to their relationships one to another may arouse a curiosity which, if not adequately satisfied, will create of the parents mysterious creatures of power which the experiences of future time may rudely destroy, producing not only disappointment with the parental figures but disillusionment and even contempt.

The Mothercraft and Infant Welfare Centre is carried a stage further by the recent development of the Child Guidance Clinic. Education for parenthood can, and is, being carried on in the various Child Guidance Clinics established throughout this country. The disturbances of child behaviour and nervous health are soon discovered to be related to the disharmonies in the home and the personal idiosyncrasies of parents arising from the causes already discussed.

In such clinics, although the burden of treatment is the readjustment of the child, parental attitudes as well as environment conditions are changed. But in the course of inquiry and treatment, parents not only seek advice about their children, but actually seek help about themselves, for they frequently have a shrewd insight into the fact that their own mental attitudes are at fault. More often than not the parents do not know that they are receiving valuable insight into themselves when their children are under discussion, and it is perhaps this unconscious education, or, as some may prefer to call it, indirect education, which may prove most valuable.

In Dr. Ira Wile's open clinics in America this Child and Parent Guidance is carried out in the open—many parents and children in addition to the team, sit together and indulge in a group discussion of special problems which becomes a communal talk on child-parent relationship. Such a social approach to parental education is only likely to appeal to working-class parents, and, moreover, only most successfully in communities where such a fresco interchange of privacies is tolerated. It would be difficult to picture middle-class folk tolerating such semi-public washing of family linen. Furthermore when the education of wealthier parents is in question, it is doubtful whether anything less than utter privacy would be for a moment entertained. Indeed experience goes to prove that the ascent in the social scale incites increasing difficulties with regard to education for parenthood. Firstly because an increase in general education does not necessarily predispose such persons to show greater

readiness to be taught their parental functions and duties. Secondly parents of the wealthier classes possess nurses who presume to take over many of the functions of parents. Actually they do nothing of the kind. The children are frequently virtually parentless in everything but economic security, or, if the parents are there in the offing, they are in danger of becoming remote and mythical figures. This situation produces special problems, and, on the whole, the differences inherent in the social class, economic, cultural and personal, create special problems for the educating of parents. In fact, methods must be devised, taking communal stratification for what it is, to meet the differences produced in parental attitude by such strata.

In the near future Child Guidance Clinics will wisely carry on their work in collaboration with such a body as the Marriage Guidance Council, the aims of which are to disseminate the latest scientific views on eugenics, birth control, and allied subjects bearing directly on the role of parenthood. For although the personal relation of men and women in marriage is to be stressed in any Western civilization which values individuality and its full expression, the marriage bond is meaningless unless it is fruitful. Contraception, for example, will be made clear to married couples as a measure to ensure the proper spacing of children within a family, the designing of which should be mainly in the interest of the children. Such data as researches will produce should throw a light on the biological and psychological value of spacing. Parents should be made wise as to the fruits of such research for several reasons. One,

the effects of contraception are not only physical but psychological, for some men as well as women are frequently emotionally upset by this or that method of contraception. Two, economic considerations which determine the use of contraception vary with social class. Three, spacing of children will depend upon the age of parents, the progressive economic improvement or otherwise of the breadwinners, and the psychological attitude towards small and large families. But nothing short of examination of individual cases can truly determine what are the needs of parents and children in this respect. For example, only discussion with a psychiatrist of childhood can decide whether a particular first-born child can afford to wait for a new baby sister or brother, or whether the psychology of such a child dictates the need for an earlier fraternal relationship. There are, indeed, many such problems in which the child psychiatrist can prove of educational value to parents.

Much controversy has raged around the subject of sex instruction, for it is widely felt that without a sound and open-eyed acceptance of the facts of sexual life, no one can enter into parenthood emotionally unembarrassed. In primitive culture, which places limitations upon free sexual enjoyments and punishes the delinquent, sex knowledge comes at an early age and puberty is actually a period of initiation, not only into tribal obligations but into sexual behaviour. With the growth of civilisation this initiation into the facts of life, the duties of husbands and wives and parents has been disguised and side-tracked. Can we regain the primitive

innocence of directly acquired knowledge? Can sex knowledge be taught by school teachers, or by parents? Even modern parents shrink from enlightening their children as to their future function. Botanical analogues are stressed or romantically referred to. The life of the farmyard is perhaps disclosed by the daring few. But it is surprising how very unsatisfactory such biological knowledge may be as an introduction to human sexology and parenthood. The enlightened woman needs an illumination penetrating to the deep places of the heart, before she is prepared to accept her relationship to the beast heavy with a litter, or the cow heavy with milk. And even children, while held by the sexual life of daffodils and rabbits, do not find it easy to extend this knowledge to include themselves, let alone their parents.

If adolescents, for example, are to be prepared for the sexual life and for parenthood, it will be necessary to examine their prior knowledge of sex, their fantasies and fears before embarking on the revelations which sometimes leave them cold through repression, or excites or revolts them as a result of some peculiarity in their emotional lives. While sex instruction is desirable to all adolescents—for girls, in particular to prepare them for parenthood—it would seem wiser to start with the babe and its needs, and thence to work backwards as it were to the sexual life which makes parenthood possible. It would probably be true to say for 100 women who want babies, probably 50 of them fear the sex act, or are indifferent to it. It will call for a careful psychological research to determine how far sex knowledge

healthily acquired at or before adolescence, encourages the desire for parenthood, and how far satisfied parent feeling tends to reduce sexual tensions and fears. There is no doubt that, on the whole, a detached exposition of sex processes and child bearing need not distress or excite the adolescent who has been, for all practical purposes, complex free in childhood, that is, free of neurotic symptoms or striking character anomalies.

To conclude, how can such sex hygiene be disseminated which shall educate for their aspect of parenthood. Firstly, by a frank admission that the knowledge is tied up with a psychological attitude of a far-reaching kind. Secondly, sex hygiene can be given with due safeguards to adolescents. Thirdly, there should be facilities for pre-natal clinics, child welfare clinics and contraceptive clinics for the repetition in a more practical form of the knowledge acquired in adolescence. The "honours course", as it were, should be largely psychological in character and carried out individually and not in classes, not because of the need for privacy, but because each case calls for an individual line of approach.

The larger problem of population control cannot be entirely ignored in any consideration of family limitation and family spacing. The education of parenthood on this particular problem is connected with issues which lie outside the immediate field of parent psychology. Much that has been written on the subject of population is the result of statistical studies. But rarely¹ has it been suggested

¹ C. P. Blacker has made a few such suggestions in his *The Future of our Population*.

that variations in population may be due to psychological causes. The effects of fear of economic stress as a cause of contraception methods are surely psychological; the fear of war equally so. How are we to educate parents to meet these preoccupations? Speculation cannot be utilized in education, but it should give grounds for further research. In the present state of our knowledge, enlightenment can only be given on the purely psychological problems, and difficult though they may be, they are at least relatively free from the disturbing effects of social and political bias.

Of outstanding importance in the education for parenthood should be the realization of the important proposition that in the parent-child relationship there is a recapitulation of a child-parent relationship which is embedded and yet still active in the minds of the parents themselves. All that has been said is but an extension of this proposition and any instruction that can be given to parents should be concerned, in a large measure, with the outstanding variations of this essential theme.

Lastly, one must close upon a sad and perhaps cynical note. In the education for parenthood, an educational truth which family life will itself illustrate without any teaching, it must be realized that a time will come when children will no longer need their parents, when they will indeed be pleased to be unburdened of them. Children will at times show a complete lack of appreciation of what the parents have done for them and of the labour involved in giving love as well as in imposing authority. Parents can only be regarded as complete

and efficient when they can produce children who are healthily capable of dispensing with parental care. Parents at most can only expect of their children that they close their eyes and relegate them to honourable graves. It is the ability to produce such emancipated children that is the proof of perfect parenthood. It is rare that both parents and children accept this consummation of the child-parent relationship. To have about one healthy and attractive sons and daughters who remain indissolubly bound to one with no desire to face the ultimate adventure of marriage is a proof that parenthood has somehow failed. For parents to accept the normal and happy departure of their children from the home is a proof that their parenthood has been both biologically and psychologically a success.

CHAPTER XIX

MASS EDUCATION AND GROUP ANALYSIS

I

THE SOCIOLOGICAL APPROACH TO EDUCATION ¹

THE recent crisis of democracy and liberalism should bring home to those countries which still enjoy freedom some of the deficiencies of their system in the changed conditions of the world. Democracy and freedom can only be saved if we watch the gradual transformation of the totalitarian states, not so much for the sake of imitating their methods as to find out the causes of those structural changes which made dictatorship one of the possible responses to the situation of the modern world. We can only expect to find solutions which accord with our democratic and liberal ideals if we know why those democratic societies which failed to cope with the new situation were driven to accept the dictatorial system. Although the causes leading to their collapse were very complex and the defects of the modern economic and

¹ Some of the premisses of the present essay are to be found in the author's study, "Present Trends in the Building of Society" in the first volume of *Human Affairs*

political order were primarily to blame, no one can deny that the lack of mental resistance played a very large part in this break-down. Not only was the educational system in those countries still unfitted for mass education, but the psychological processes at work outside the school were left without any real social control, and so, of necessity, led to chaos and disintegration.

The great democracies of the West, which because of their greater economic security have not yet passed through an immediate crisis, should not let themselves be deceived by this momentary calm. The very same forces which are transforming the whole structure of society are at work in them, and we have to ask whether in fact they are better off as regards their educational system. The democratic governments cannot pride themselves on discovering satisfactory forms of social control to replace a vanishing community culture, or new psychological techniques for dealing with the needs of mass society. If a sudden crisis should break out in a period of depression or war this lack of moral guidance might soon become evident. A general psychological break-down can only be prevented if we are quick enough to realize the nature of the new situation, and to re-define the aims and means of democratic education accordingly.

This reformation of democratic and liberal aims to fit a new society calls for a sociological approach to education. I will just specify a few of its implications.

(1) Education does not mould man in the abstract, but in and for a given society.

(2) The ultimate educational unit is never the individual but the group, which may vary in size and function and according to the different patterns of action in which the individual has to survive.

(3) The educational aims of society cannot be adequately understood as long as they are severed from the situations that each age is called upon to face and from the social order for which they are framed.

(4) Codes and norms are, to the sociologist, not ends in themselves but always the expression of an interplay between individual and group-adjustment. The fact that norms are themselves not absolute but change with the changing social order and help to solve the tasks with which society is faced, cannot be seen from the experience of the single individual. To him they seem to be absolute and unalterable decrees, and without this belief in their stability they cannot be made to work. Their true nature and function in society as a form of collective adaptation reveals itself only if we follow their history through many generations, continuously relating them to the changing social background.

(5) These educational aims in their social context are handed down to the new generation by the prevailing educational techniques. Educational techniques in their turn do not develop in isolation but always as part in the general development of "social techniques". By social techniques I understand the sum of all the forms of social control at the disposal of a given society. Education is only one of many means of influencing human behaviour,

and the slightest improvement in these general techniques reacts upon the function of education in a narrower sense, as it is carried out within the walls of the school.

(6) The more we consider education from the point of view of our recent experience, as only one of the many ways of influencing human behaviour, the more it becomes evident that even the most efficient educational technique is doomed to fail unless it is related to the remaining forms of social control. No educational system is able to maintain emotional stability and mental integrity unless it can hold in check the social influences which disorganize community life, and unless it knows something of the psychological and social explanations of crowd behaviour.

This sociological approach to education will probably be resisted by those liberals who are a prey to certain habits of thought and do not realize that it is just their dogmatic attitude which prevents them from adapting their ideals to changed conditions. They unconsciously confuse their belief in the dignity of human personality with an obsolete method of thinking, when they isolate man and his activities from the social context in which he has to live. In a former stage in the development of liberalism and democracy it was possible to think that the best way to stress the independence of human personality was to neglect the analysis of the social context, because the humanistic ideal was only meant to apply to a small *élite* living in a way which in itself encouraged individuality. Neglect of social conditions did not harm the masses

either, because they were sheltered in their community life and their traditional methods of controlling human conduct were fairly efficient, owing to the sluggishness of social development. But this blindness to the social context in which personality is formed passes unpunished only as long as democracy is a democracy of the few. The isolating method of liberal thinking tended to turn every item into an absolute. Thus the aim and technique of education were regarded as entities good or bad in themselves, irrespective of any social background whatever. As soon as the masses become politically active, new forms of education are necessary and the selection and maintenance of the highly individualized standards of the *élite* become a matter of public concern. In this stage it is no longer possible to confine the problem of education to the school. Education is no longer an interchange between two individuals, the teacher and the pupil; it is no longer a personal and private relationship, but part of the broader context of social processes.

Another unprofitable tendency was to be found in the fact that character was educated for life, and "Life" meant some vague generality, a vacuum in which, according to a mysterious harmony, everything would turn out for the best. To-day we know that this vacuum called "Life" is to a very large extent society, with its changing situations and institutions.

Liberal education, with its lack of insight into the social background, works fairly well when, as in times of prosperity and general expansion, everyone

with any strength of character has a good chance of making his way in life. It fails, however, when the general expansion and prosperity cease, and the various groups are thrown back upon their own resources, when unemployment and lack of mobility sap the energy of isolated individuals. Ignoring the sociological point of view does not abolish social problems, but leads to complete chaos, marked by the rising influence of those who try to establish order in society, not by scientific guidance, but by dictatorial decree. The sociological shortsightedness of dogmatic thinkers prevents us from realizing that there are methods already at hand within the democratic and liberal framework, which, if adequately developed, could help us to deal with the changing situation. But in order to cope with the new conditions of mass society without paving the way for dictatorship and mechanical conformity, democracy and liberalism must give up their irresponsible optimism and their policy of *laissez-faire*, and study the principles governing social trends. So we must not think that a knowledge of social conditions is equivalent to levelling personality. It is usually possible to break up a great society into smaller units and there to foster those conditions which leave room for individual differences between members of a group.

In the same way, the study of the processes which support or destroy the social validity of certain ethical standards does not mean relativism, anarchy and contempt for standards in general, but is only an attempt to find scope for Socratic reflection. Socratic reflection in its original form was the

first symptom of democratic change in a society where the best and most alert among the people tried to create a science which should analyse the passing of the old moral codes and mythical explanations in a critical spirit. They hoped to set up rational norms which would be valid for an urban society, and would harmonize with the new habits of thought in a world based on handicraft and commerce.

This system of ethics was the rational way of re-establishing norms in small intellectual groups where the old moral codes of the folkways, *mores* and customs were tending to disappear. When shall we have the courage to admit that our judges, ministers, doctors, teachers, social workers are, in a similar way, continuously faced with the conflicts which confront the individual as he adjusts himself to changing conditions? Now both the person who seeks for advice and the person who is expected to give it are at a loss to know to which norms and ethical standards they should cling. When shall we be willing to admit that in the chaos in which the old conditions vanish and the new demands are not yet clearly established, systematic discussion of the pros and cons of different standards is badly needed? When shall we realize that the only way to prevent the dictators forcing new religions and a new code of ethics down our throats is for us to create a forum which is both scientific and democratic enough to give the lead to moral adjustment in a period of quick transformation?

In what follows I wish to draw attention to the emergence of two new problems and to the slow growth of some new psychological techniques.

which, if further developed, are bound to contribute to the readjustment of individuals and groups in our society. First I wish to suggest a possible approach to the problem of the growth of new democratic standards and their readjustment to changing social conditions. One of the deepest sources of the insecurity of democratic culture lies in the fact that people lose respect for ethical standards in general. The main reason for this growing contempt is that in a changing society most of the age-old norms, which were reasonable in their former context, grow out of date without being abandoned. It is widely acknowledged that moral commands which can no longer be fulfilled because they have lost touch with reality, make for an increase in law-breakers and for a diminishing loyalty to law in general. The democratic system has not yet set up machinery which could remove these obsolete rules from our moral code, as obsolete laws are removed from the statute book. We should not forget that moral codes, like legal regulations, are devices for moulding human behaviour. If we have so far been able to do without institutional control in the moral field, this is mainly because the ethical standards of everyday life have been created for the most part by trial and error, and transmitted by anonymous tradition. But trial and error only work as long as social conditions favour unconscious selection: that is, as long as change takes place so gradually that unworkable norms are sloughed away in the course of time. This is not what is happening to-day. The speed of transformation is surely too great to permit unconscious experiment and selection. The indi-

vidual is lost in an invisible society, and is too weak to invent new norms for himself. The result is a moral chaos in which religious standards, family traditions, and neighbourly ethics are losing ground without being replaced by other principles.

Dictatorial societies arrive at a short-circuit solution. They simply establish their codes in the spirit of a totalitarian *Gleichschaltung*. In this unscrupulous way they fill a gap which should be bridged by democratic readjustment, so that both the expert and the man in the street could work out the new standards together. But in order to reach this stage, all the competent agencies in our democratic societies, such as churches, schools and social services, must examine our moral standards more scientifically. They must realize that these standards do not gain in dignity by pretending they are eternal and unchangeable. The growth of social work and the social sciences proves that establishing a moral code is part of the problem of rational adjustment, and that the social worker, for instance, constantly interferes with established habits, without really facing the question of standards at all.

In the second analysis I shall try to show that modern sociology and psychology are making progress not only in reforming moral standards, but in finding new methods of readjusting the masses by group-analysis. Here we touch upon a problem which was already realized in Greek tragedy, where the meaning of group-catharsis was first worked out. Although these experiments are so far isolated and in their very beginnings (usually even their authors do not know their full significance), I venture to say

that we have in them a genuine alternative to the Fascist exploitation of group emotion. We have to break ourselves of the prejudice that group interaction is capable only of creating mass psychosis, that groups and masses cannot be enlightened, but are the prey of ideologies. Democracy must learn to use the forces of group interaction in a positive cathartic way.

These two approaches to our problem are obviously not educational in the narrower sense of the word. But it is clear that they are complementary to education, as soon as we realize that all the methods of rationalizing adjustment (both in individuals and in groups) are only different tools which can be used in the common work of reconstructing human conduct.

II

INDIVIDUAL ADJUSTMENT AND COLLECTIVE DEMANDS

According to the modern approach in psychology and sociology the real meaning of any human activity can only be found when it is defined in terms of adjustment. Adjustment means that in some way an organism relates its inner and overt behaviour to the requirements of the surroundings.¹

¹ I am deliberately giving an elastic definition of adjustment, which leaves scope for a more subtle analysis of the meaning of the word. Adjustment does not necessarily mean mechanical adjustment in which only one response is possible to a given stimulus. Indeed the opposite seems to be true. Every real human adjustment to social conditions is "creative adjustment" where the "total organism" is related to the "total environment". Creative adjustment is therefore

The simplest form of adjustment, that of trial and error, is to be seen in the behaviour of an animal, shut up in a cage, and trying to escape by running against the bars or by searching in every corner for an exit. So, when a child learns cleanliness through an inner control over his visceral tensions, we speak of an adjustment to the hygienic demands of his social surroundings. In the same way if he learns to adjust his emotional tensions to the forms of self-expression customary in his family or his country, we still speak of self-adjustment, although it takes place on a higher level.

Every living being finds itself in a continuous state of adjustment. We tend nevertheless to overlook the fact that our attitudes are being continuously related to the surrounding world because under normal and stationary conditions we generally make use of traditional patterns of behaviour. But traditional patterns of behaviour like *mores* and conventions are themselves nothing but the results of former adjustments made by our forefathers. They survive mainly because they are responses to typical situations which still arise in our society. As only under changing conditions can we realise that our behaviour is based upon adjustment, let us choose as an example a group in rapid transformation.

Whenever one reads about immigrant groups like *The Polish Peasant in Europe and America*, whose

a continuous freeing of new energies, a permanent give and take between the original conditions and the human being, it is progressive experience. Cf. more on the subject, M. P. Follett, *Creative Experience* (London, New York, 1924)

conduct is described in a masterly way by Thomas and Znaniecky,¹ or about the fate of aristocratic refugees in Paris after the Russian revolution, one may observe certain typical processes and conflicts at work. In the first stage of its stay in the foreign country, the immigrant group tends to adjust itself to the new situation as a closed single unit. Later some of its members prefer to make their own adjustment. We speak of collective adjustment as distinct from individual adjustment, as long as the group holds together in some way or other. As long as collective adjustment prevails, the single member of the group does not act according to his immediate personal interests but as a member of the whole social body. It is mainly his feeling of weakness and isolation in hostile surroundings which makes him subject his personal wishes to the requirements of the group. At this stage, therefore, mutual help and spontaneous co-operation is the rule, and each man uses his talents in the interests of the group. In addition we find the whole group identifying itself with the single member should he be attacked from without.

This public spirit vanishes when, later, under changing conditions, certain members of the group are offered special opportunities. The younger ones especially, who have learnt the new language, acquired professional training, and adapted their habits of thought to the new mental climate, will have better opportunities than their elders in the choice of a career.

¹ W I Thomas and F Znaniecky, *The Polish Peasant in Europe and America* (New York, 1927), 2 vols, esp pp 87-106

As the objective opportunities change, the subjective reactions will change also. It is at this stage that a difference between individual and collective adjustment becomes visible. Whereas the younger members make their way through individual adjustment, that is to say, by using their special chances regardless of the needs of the group—the older cling more tenaciously to the collective forms of adjustment. The more hopeless their situation becomes in the new surroundings the greater will be their orthodoxy. They will ascribe a special significance to every detail of their former customs, they will cultivate their class-consciousness and anti-democratic outlook even more dogmatically than before. They do so because they feel, even if subconsciously, that if the group cohesion on which their fate depends is to survive, it needs a much stronger emphasis than in their country of origin. From now on their orthodoxy will not only be a habitual attitude but will become a psychological pressure upon the young, in an attempt to subordinate to group-cohesion the youthful tendency to individual adjustment.

Here we have an instance in which our problem "Individual Adjustment and Collective Demands" is illustrated by a single conflict. One of the essential sources of human conflict is to be found wherever the optimum of individual adjustment no longer coincides with the collective demands of the group. Some clash between the immediate interest of the individual and those of the group occurs even under stationary conditions in harmonious community life. Even when the group we are discussing was living in its country of origin and

no signs of any revolutionary methods were to be seen on the horizon, there was still some tension present in the day-to-day adjustments. But there was always the possibility of pointing out to the individual that by sacrificing some of his immediate personal advantages he would ultimately stand to gain by sharing in the increased power of the group. Matters had not yet reached a stage where it was impossible to compromise between individual and community interests.

To put the problem quite generally in every case of human adjustment we are faced with the more or less powerful conflict between the original impulses of the individual in his search for maximum satisfaction and self-expression, and the taboos and prohibitions by which society tries to inhibit them.

Jessie Taft in her "Thirty-one Contacts With a Seven-Year-Old Boy"¹ describes how Jack, the little boy, tried to destroy various objects in her consulting room and to do all kinds of forbidden things in order to find out the "limit" the adult would set to his activities. The nature of this "limit" is the problem of the sociologist² because the "don't's" the grown-up inflicts on the child are not simply the expression of his purely personal opinions. These don't's and collective demands are mostly the usual standards of behaviour in a given

¹ Jessie Taft, *The Dynamics of Therapy in a Controlled Relationship*, ch. ii, "Thirty-one Contacts With a Seven-Year-Old Boy" (New York, 1933).

² I. Dollard, *Criteria for the Life History* (published for the Institute of Human Relations by Yale University Press, New Haven, 1935), cf. p. 76 f.

society, and, from his self-adjustments the child gradually learns to find the right compromise between his impulses and the collective demands established by society

In the last 10-20 years which have been marked by the exaggerated individualism of certain groups, there have been many who thought that sociological and psychological readjustment would enable us to live without repressions. We are now beginning to realize that it is impossible to do without them, and that a certain number of inhibitions is inevitable. To us the question is, therefore, not so much whether we can do without conventions and repressions, but whether we can make clear distinctions between taboos which are nothing but a burden to the mind and reasonable principles without which a society cannot survive. Thus we are able to determine the principles governing institutions in a successful society and in one which is a failure.

To my mind there are three main criteria for establishing the distinction between successful and unsuccessful societies :

(a) A successful society will economize as much as possible in the use of prohibitions and repression

(b) It will distinguish between humane and harmful prohibitions

(c) Through its institutions it will help the individual to make his adjustment in the best possible way, and will come to the rescue of those who have failed in their readjustments

Thus our next problem is to know more about the nature of these standards and collective demands, about their social and psychological origin, about

their function in past and present-day society.¹ First of all, we have to realize that they are not homogeneous in their nature, and it will be better to deal with them under different headings, according to the contribution they make to the readjustment of groups and individuals

I shall first mention the rational conventions and taboos which have a definite function in a given social order. Secondly, I shall pass on to those which cause psychological maladjustment because they spring from conflicting institutions. Thirdly, there are standards which were once functional and are now irrational because they have lost all social meaning. Fourthly, we come to other standards which, although they were irrational in themselves, have, by some social process, assumed a real function in contemporary society. Lastly, we shall have to deal with obsolete conventions which have no real function, and thus are simply a psychological burden

(1) As to the first category, I understand by functional standards those which have a definite function to fulfil without which no society, especially our own, can survive. Thus it would be impossible to permit homicide even if there were a certain aggressiveness inherent in man. In this case the only remedy a society can provide is to find some other outlet or form of sublimation for this drive

¹ In this context it is impossible for me to deal with the scope of the sociological approach to the problem of valuations. Whatever its limitations may be, its special task is to stress the fact that the life of norms and moral codes is subject to certain conditions, and it is useless to study them without a thorough examination of their changing function in society.

In the same way minor habits like punctuality, discipline, perseverance, thoroughness are to be inculcated into the individual in order to make co-operation possible in our society

(2) It is a very different matter when we come to those standards which, although they have a function, are in conflict with other standards owing to the lack of co-ordination in our institutions. If the family teaches us neighbourly ethics in which mutual help is a matter of course, while the laws of the market compel us to become self-assertive, the consequence of these conflicting demands will be a kind of neurosis. Thus Karen Horney¹ in her interesting book is right when she says that these types of neuroses are the products of competitive society. These conflicts will never be solved by the individual himself as long as there is no satisfactory co-ordination between social institutions. Yet even here it helps the individual to find a suitable compromise between the conflicting tendencies if he realizes by sociological analysis that the source of the conflict does not rest in him, and that an improvement can only be brought about by a collective effort to co-ordinate our conflicting institutions

(3) The position is even more complicated if the conflict in the mind of the individual is due to the fact that the standards which serve him as a measuring rod have no real function in present-day society, although they were quite sensible in the past. The reason why such obsolete standards can survive lies in the fact that man makes most of his adjustments

¹ Karen Horney, *The Neurotic Personality of our Time* (London, 1937)

not by genuine responses but by using cultural patterns of behaviour and traditionally established social standards. Thus, the commands by which he is guided may belong to an earlier stage of society, while the real problems to which he must adjust himself are of recent origin.

Freud has shown that these obsolete demands might be explained in terms of the formation of our Ego-Ideal. The most important elements in the Ego-Ideal are formed in early childhood, and thus very often reflect parental demands. But by the very same mechanism through which we have taken over these demands from our parents, the latter may have got them from their parents, so that they are mostly the reflection of a bygone age. This is the reason why the fundamental set of commands which controls our life, very often lags behind the actual reality to which we have to adjust ourselves.

It is obvious, therefore, that in certain cases a too rigid Ego-Ideal may become, as M. W. Wulff has shown by interesting examples,¹ an impediment to our adjustment to reality. In the case of our younger immigrants, for instance, the aristocratic traditions had formerly a functional meaning in a society which was based upon the distinction of ranks. But the very same demands become meaningless and intolerable to a person who has to carve out a career in a democratic society. Here rational sociological analysis may be a great asset to the individual, as it explains his difficulties in adjustment.

¹ M. W. Wulff, "Widerstand des Ich-Ideals und Realitätsanpassung." *Intern Zeitschrift f. Psychoanalyse* vol 12, 1926

and enables him to get rid of standards which have lost their justification.

(4) We are faced with a special difficulty in cases where a superficial analysis would prove some commands to be completely irrational and meaningless whereas a more penetrating analysis might bring out their functional significance. Many of the habits of the old aristocrats, their clinging to all sorts of distinction, and their attributing of an even greater importance to ranks and titles in their country of origin, may seem to a member of the younger generation completely meaningless, as he is adjusting himself to a democratic society in which there is greater equality for all. Were he to look upon these conventions from the standpoint of the older generation he would realize that they are not in the least meaningless. The old conventions have acquired a new function in the new surroundings. They have become a defence mechanism which secretly helps to maintain cohesion among those who are incapable of individual adjustment.

Thus seemingly irrational attitudes may have a secondary functional meaning when seen from the particular situation of a group. Even here sociological analysis is helpful in finding the right attitudes to these conventions. Those who no longer wish to share the fate of the traditional group will drop them deliberately, while those who value its survival, even under changed conditions, realize their functional meaning.

(5) Finally, I come to a discussion of those standards which are completely irrational, and represent mere ballast in the life of a modern community.

No doubt there are many such survivals in our society which arose from the helplessness of earlier social organisations. The elimination of these irrational and meaningless commands becomes legitimate only if we can show the mechanism which produces them. Here I am thinking of those explanations of certain taboos which assert that these prohibitions were due, for instance, to the idiosyncrasies of some powerful personality or to some chance behaviour which was then taken over by the bulk of the people. Prescribed dietary systems or the distinction between clean and unclean foods in their very first origin probably go back to some such personal aversion which spread through suggestion and imitation. In the next generation it may have been a conditioned disgust which was acquired in early childhood. These emotionally fixed habits, then, seem to the person who does not know their origin to be due to some innate horror in man. At this stage, as a rule, some kind of rationalization takes place—an attempt to find a religious or moral justification for the traditional attitudes. If the group-mind thinks in terms of magic it may arrive at some totemistic theory of taboo. If the general habits of thought have reached a more utilitarian level, the prohibitions may be justified in terms of their hygienic value. It is obvious, however, that these justifications, although apparently rational, are not in the least reliable as explanations of moral rules.

I may be giving the impression that I only recognize functional and rational standards and that I am overlooking the irrational needs of the human

mind and their roots in the unconscious. This, however, is not so. Owing to the limited space I cannot enter into a discussion of those irrational elements which are completely meaningless, and those which satisfy unconscious needs.¹ At the moment we are impressed by the fact that civilization has placed too great a burden upon the mind of the individual and that the greater part of our neurotic symptoms is the result of superfluous inhibitions. It seems as if certain sexual taboos, certain forms of exaggerated asceticism and restrictions on self-expression are due, not so much to social or psychological needs, as to the fact that society up to the present has been too clumsy a mechanism, wasteful in its working, and so apt to crush the individual psyche. On the other hand, it is possible that the survival of overstrict taboos is due to the authoritarian form of past society which wanted to produce a subservient mind. Perhaps the fostering of guilt and inferiority feeling serves to create a subservient citizen, and the taboos laid during childhood on

¹ The investigation of these norms which satisfy the needs of the unconscious mind, is so much in its beginnings that it is impossible to state either positive or negative rules and correlations. But the acknowledgment of the existence of the needs of the unconscious is to be stressed in order to avoid a pretentious attitude which thinks itself capable of interfering with everything. But there is surely something between a blind traditionalism to which everything old is sacrosanct even if its evil consequences are already quite obvious, and that kind of utilitarianism which regards the task of the social philosopher as a kind of human engineering, based on a very narrow-minded conception of efficiency. In contrast to this there is a form of rationality which does not shrink from the use of the mind, but links it up with a sense of creative evolution. It is continuously aware of forces and impulses which have so far been unnoticed, and emerge only in connection with dynamic change.

sexual curiosity help to suppress the development of an inquiring mind

The more Fascism reverts to these obsolete methods of intimidation and to a general tendency to demand unquestioned submission, the more urgent does it become for the psychologist and sociologist in the democratic countries to study methods which are able to replace these brutal forms of social integration by more human forms of education. A well-governed modern society based upon sound institutions can do with less strain and repression in the moral code.

The claim to revise our moral standards is not as new as it would seem. What was the Reformation, and the Puritan movement in particular, other than a thoroughgoing purge of the magical elements in the Roman Catholic religion in order to achieve a more rational morality? It is a logical continuation of this trend if we to-day plead for collective demands which must be "functional rather than formal, understandable rather than arbitrary, voluntary rather than coercive, and attractive rather than routine."¹

III

THE PROBLEM OF GROUP ANALYSIS

Finally let me say a few words about the ways in which society can help the individual to make his adjustments. It is well known that in the early stages the help given to the poor was material

¹ R. G. Foster, "Sociological Research in Adolescence", *Amer Journal of Sociology*, 1936

Charity restricted itself to pure externals. It was psychology, especially psycho-analysis, which raised the problem of the subjective side of readjustment. Having admitted this, I do not, however, regard the merely individual help offered by the psycho-analytic method as the last word in social and psychological readjustment. I am rather inclined to think that we are approaching an age in which certain forms of collective adjustment will become as important as individual adjustment. Viewed from this angle, psycho-analysis, which stresses the therapeutic relationship between the single individual and the analyst, seems to be only one of the many possibilities of psychological treatment. The disadvantage to the purely individual approach is that the patient is severed from his social background, and treated in the consulting room, which is not part of his normal surroundings. The analyst has to rely mainly on the results of introspection, and the form of self-adjustment which results is not part and parcel of the patient's daily life. Further, the psycho-analytic approach does not take adequate account of the whole social and cultural background, which is very often finally responsible for the neurotic symptoms.

This purely individualist approach is, indeed, a symptom of the liberal age, and shares both its advantages and its one-sidedness. As we have seen, the liberal method of dealing with the problems of man and society was always to tear the individual from his social setting. Thus, in considering the cause and the cure of psychological maladjustments, especially neurosis, it was inclined to overlook the working of

the broader social forces. Although we realize the limitations of psycho-analysis, that does not mean that we are opposed to it. On the contrary, the therapeutic relationship between two individuals is often irreplaceable. However, we want to stress the fact that psycho-analytic readjustment does not cover the whole field. Side by side with it there are other forms which are about to be tried out. I used, in my lectures, to call these collective forms of readjustment, socio-analysis or group-analysis. Socio-analysis refers the individual case, not only to the family constellation, but to the whole configuration of social institutions. At the same time, socio-analysis makes more conscious use of group interaction. Such an approach will gradually lead to a control of the immediate and more distant surroundings and will pay equal attention to the cultural and material elements in them. As such trends never appear in isolation but always simultaneously I would like to draw the attention to some of these attempts, which at the moment are still in an experimental stage. Perhaps it is not too presumptuous to predict that society, which is coming to rely more and more on scientific guidance, will at some future date make use of them.

(A) The first of these experiments in collective readjustment is but a modification of the psycho-analytic technique, applied in certain cases to smaller groups. These experiments were first carried out in the wards of a mental home where it was necessary to find a technique for the intramural treatment of a great number of patients by a relatively small staff. Instead of analysing individuals, an attempt was

made to bring about the analytic situation in small groups. The analyst started by discussing different types of psychological maladjustment. The more he worked on these lines the more obvious it became that this discussion had a releasing effect. One has only to remember the eagerness with which patients in small groups discuss their ailments to see the possibilities. According to these experiments it depends mainly on the analyst's ability whether he makes good use of this emotional tension in the group and whether he is able to guide it into therapeutic channels. Another reason why group discussion had a releasing effect was that it helped some of the patients to establish contact with the analyst, and this gradually developed into a kind of transference. Louis Wender,¹ three years ago, read a paper before the New York Neurological Society describing these experiments in some detail, and he observed, among other things, that the resistance of the patients is sometimes weaker than in individual analysis. The reason seems to be that the neurotic symptoms and the different forms of maladjustment in these cases are described without reference to special individuals. The patient thus learns to recognize his symptoms in other people, and it is only later that he connects them with himself.

Nothing could be worse than to regard this experiment as a substitute for psycho-analysis, or to judge

¹ Louis Wender, "The Dynamics of Group Psycho-therapy and its Application" (read before the New York Neurological Society, April 2nd, 1935), *The Journal of Nervous and Mental Disease*, vol. 84, July-December 1936

it by the psycho-analytic criteria. It is something entirely different, and it is not so much a radical cure in difficult cases as an attempt to set a mechanism in motion by giving it a push. One will only find the right approach to this experiment and to those which follow if one realizes how great is the range of those as yet unexplored techniques which try to use group influence in its positive aspects. Let us refer to Thrasher's ¹ observation on gang-behaviour. According to him it is impossible to change a young boy who is a member of a gang by teaching and admonition—that is to say, by means of an individual approach. But it is possible to achieve some success in readjustment by taking him as a member of his gang, and by giving the gang a new and socially useful task. Then the youngster will be changed not as an individual but as a member of a gang, and as yet unexplored forces of group-interaction will become a powerful means of re-education.

(B) Aichhorn's ² method represents another form of group readjustment. In his child guidance work, before meeting the child himself he tries to come into contact with the parents in order to detect, by watching their behaviour, the possible sources of the neurotic symptoms in the child. In the same way his treatment and guidance is not so much centred in the individual as in the *neurotic constellation in the family*, and he tries to bring the force of transference to bear upon the parents as well as the

¹ F. M. Thrasher, *The Gang: A Study of 1313 Gangs in Chicago*, 2nd ed. (Chicago, 1936).

² A. Aichhorn, "Die Übertragung", *Zeitschr. für psychoanalytische Pädagogik*, vol. 10, 1936.

child. Of course, Aichhorn does not think that this method will replace individual analysis, which must be used if it is needed, but only that there are a great many cases in which the readjustment of the emotional constellation in the family is the right method. This obviously leads to a control of the surroundings which, in its definition of "milieu", includes not only the material facts, but also the emotional and intellectual setting.

(c) Once one realizes that neurotics can be helped in their readjustment by controlling the tensions which arise in the surroundings, one must admit that it is not only the immediate surroundings like the family, the neighbourhood or the professional background which are responsible for psychological pressure. The mental climate of a given society as a whole may be the source of unbearable tensions in the individual. Here I have to draw the attention of the reader to that new branch of knowledge which is called the analysis of ideologies. By ideologies we understand those interpretations of situations which are not the outcome of concrete experiences but are a kind of distorted knowledge of them, which serves to cover up the real situation and works upon the individual like a compulsion. The existence of ideologies was first noticed in the political sphere¹. If one discusses problems with fanatical communists, fascists, or even democrats, one suddenly feels that the individual does not adopt an empirical attitude, but rather

¹ More on the problem in the author's *Ideology and Utopia: An Introduction to the Sociology of Knowledge* (London, New York, 1936)

defends his views in a way which can only be called obsessional thinking.

But ideologies are not only confined to politics. There is practically no sphere of life, as Schilder¹ has recently shown, which is not smothered in ideologies. Take, for instance, the facts concerning love, sex, masculinity, or femininity or questions of social advancement and success² or our traditional attitudes to money. Either they must not be discussed in public or if admitted at all they are dressed up in conventional prejudices. We know that whenever a subject is excluded from public discussion it will become a source of neurotic symptoms or stunted development.

As most of these ideologies are not invented by the individual but are instilled into him by the community, and as they are usually deeply rooted in the unconscious, it is very difficult to remove them. Observations show that strong defence mechanisms are at work, which are all the more dangerous as these forms of collective fear, guilt, and hatred not only hinder understanding between groups but cause neurotic symptoms in the individual. It gradually becomes obvious to most of us that these symptoms cannot be successfully removed by curing the individual alone or by merely reconditioning small groups like the family or the neighbourhood. Unless a large-scale attack is made on the defence mechanisms by education, propaganda, and social work the poisoned mental atmosphere of the whole nation

¹ In his recent study, to be quoted later.

² As to the ideologies concerning success in life, cf. also G. Ichheiser, *Die Kritik des Erfolges*.

will always be stronger than the readjusted individual or the smaller group. Until this is done the obsessional forms of public ideologies will act as a stumbling-block to education and will frustrate the work of personal enlightenment. A new form of teaching will generally be necessary. Before any constructive work is possible the defence mechanisms¹ must be broken down. This is done by laying bare the hidden springs of ideologies and then showing that they are connected with unconscious motives or latent interests. One must draw attention to the fact that we are all subjected to some of these mechanisms, and that they are the greatest obstacle to dealing rationally with our problems. Only when the individual is ready for introspection can one proceed to logical argument, showing that these ideologies are inconsistent or are concealing under empty symbols just those problems which the individual did not want to face. In seminar work and in lectures one very often has the impression that this kind of ideological analysis of social and psychological facts not only broadens the outlook but gradually changes the attitude of the audience and brings about a kind of catharsis. Recently the psychiatrist Schilder²

¹ For the psycho-analytic concept of defence mechanism, cf. Anna Freud, *The Ego and the Mechanisms of Defence* (translated by Cecil Baines, London, 1937).

² P. Schilder, "The Analysis of Ideologies as a Psycho-therapeutic Method especially in Group Treatment", *American Journal of Psychiatry*, vol. 93, No. 3, November 1936. In the above characteristics of the aims and methods of Wender and Schilder I followed their discussion and concentrated upon those points in which I felt myself in agreement. That means that the stress was laid upon the mechanisms which are accessible to the psycho-analytic approach. Apart from them, ideologies and utopias have their roots in group interests and needs which are closely related to the pressure under which these groups live.

tried to apply the method of ideological analysis and found it very helpful both as a preparation for psycho-analytic treatment and in group readjustment. Once more it would be erroneous to claim that this method is a substitute for psycho-analysis. It fulfils quite a different function in the therapeutic adjustment. In the first place, it makes a more conscious use of the forces of social stimulation for improving the individual than has hitherto been customary. Thus the new form of analysis makes an immediate appeal to the whole group, that is to say, to a group of people in a special setting in which the very same force, wrongly guided, produced ideologies and mental distortions. By the way, I do not think that there is a mystical entity known as the "group mind." But there are, no doubt, evils which arise and can only be cured in configurations which we call social, where group interaction is at work, and where a simultaneous attack on the many facilitates the removal of resistance. I am sure every one of us has, at some time or other, had similar experiences of collective release either through attending well directed meetings on sexual reform or other methods of public enlightenment. As an anonymous member of the audience it was easier for us to get rid of certain prejudices which were a burden to the mind than if we had had to discuss them personally. Moreover, it has rightly been said that in such cases the individual's feeling of isolation

The removal of these ideologies or utopias is thus not only a matter of psychological analysis but a question of changing the social and economic position. Nevertheless, neither the purely psychological nor the purely economic and social readjustment is effective in isolation.

suddenly ceases when he notices that he is not the only person who is secretly tormented by feelings of guilt, and that he shares them with the majority of the members of society.

In the light of these experiences, we suddenly regard the whole development of recent centuries quite differently. The whole process, starting with the seventeenth and eighteenth centuries and known as the age of enlightenment, is not only a new trend of ideas but a continuous series of attempts at a new kind of group-analysis. We must not blame these early pioneers for trying to remove psychological stumbling-blocks by reason. I would stress the healing power of reason even over collective action. I do so the more consciously as it seems to be the fashion to believe that recent events in Germany and elsewhere have proved that the masses are only capable of irrational attitudes and emotional epidemics. I do not deny the possibility of exploiting mass emotion in that way. But before I agree with such a general contempt for the masses I first suggest a thorough study of the cases, both in history and contemporary society in which a skilful handling of their problems brought about enlightenment and group catharsis. We very often see the masses fighting for enlightened values, and I know many examples of their craving for education. Perhaps the evil does not rest with the people themselves but with the lack of goodwill among the *elite* which might have helped them, and with our ignorance of the possible techniques of approach and of their different reactions on the individual. The exclusive concentration upon the individual leads to

a complete neglect of the different settings in which people live. Just as a child behaves differently when he is in a family, in a play-room, in a gang, so it is found that the different forms of institutions react very distinctly upon the behaviour and self-expression of the individual.

(D) Not only should we study by experiment how to make the best use of the forces of mass interaction, but we should take into account another trend in the development of sociological thought. The clear distinction between group and crowd shows that it was a great mistake for certain psychologists, such as Le Bon and his followers, to cast suspicion at every association of the many by calling it a crowd or mass. This corresponds to the attitude of the former *élite* which led them to give up their belief in modern society just because new groups claimed entrance to civilization. The most interesting representative of that kind of attitude is Ortega y Gasset's *The Revolt of the Masses*, which although very stimulating, suffers from the same limitation. By identifying the increasing numbers in society with the mass these thinkers prevent a conscientious distinction between the different possibilities of the different forms of group integration. Not every grouping of the many is a mass or crowd. It is important to notice at this point that groups with definite functions and inner articulation do not lower but raise the mental level of their members, whereas the disintegration of personality generally corresponds to disintegrations in society.

The task in the future is, therefore, clearly to distinguish between the innumerable forms of group

integration, and to know exactly how they react upon the minds of their members. Valuable experiments have been made in America, in Russia, and other countries, which show, for instance, how working in a group reacts upon the achievement of the individuals.¹

In this context the school-class itself is being studied as a social group with special possibilities.² Then the significance of work must be realized. By creating co-operation, distributing risks and responsibilities it is a primary agency in developing personality within the social pattern. The novelty of the "Arbeitsschule"³ lies in its conscious use of group work to stimulate the growth of personality. Besides, work-play and games have not only an educational value but a specific cathartic power. It was rightly said⁴ that they have much

¹ A fairly complete account and a valuable bibliography of these experiments can be found in the article of Y. F. Dashiell, "Experimental Studies of the Influence of Social Situations on the Behaviour of Human Adults", in C. Murchison, *A Handbook of Social Psychology* (Worcester, Mass., 1935, pt. vi).

² Cf. W. O. Döring, *Psychologie der Schulklasse. Eine empirische Untersuchung* (A. W. Zuckfeldt Verlag, 1927); A. Kruckenberg, "Die Schulklasse als Lebensform", *Zeitschrift für pädagog. Psychologie und experimentelle Pädagogik*, vol. 25, 1924; A. Kruckenberg, *Die Schulklasse* (Leipzig, 1926).

³ H. Gaudig, "Freie geistige Schularbeit in Theorie und Praxis", *Im Auftrag der Zentralstelle für Erziehung und Unterricht* (Berlin, 1922); O. Scheibner, "Der Arbeitsvorgang in technischer, psychologischer und pädagogischer Verfassung", in the very same volume. As to the problem of "occupational therapy" and its application in this country, cf. Government publications, *Unit Kingdom, Memor on Occup. Therapy for Mental Patients*, 1933.

⁴ Cf. M. Y. Reaney, *The Psychology of the Organized Group Game with Special Reference to its Place in the Play-System and its Educational Value*. Thesis. London. The British Journal of Psychology Monograph Supplements, No. 4, 1916. (Good bibliography.)

the same effect as dreams, because they prove an outlet for repressed instincts and dissociated ideas Games have, further, the advantage of being co-operative or individualistic in varying degrees So it was observed that the Greek games were pre-eminently individualistic whereas the English national games were from the very beginning co-operative, strengthening community spirit¹ Shall we add that the fascist conception of games introduces the militaristic pattern?

Thus, the results both of theoretical analyses and empirical observations show that the first result in the transformation of unorganized masses into institutionalized groups is the creation of "institutional behaviour" in the individual² But this is only the first step Great divergences arise owing to different functions the groups have to fulfil These react upon their articulation, and this in its turn is immediately reflected in the different mental levels and in the reactions of the individuals concerned³ Lastly, there is not only a difference between mass and group, there is a corresponding difference between mass- and group-leader⁴ The great psychological and sociological problem in the future is therefore how to organize inarticulated

¹ Cf Reaney, *op cit*

² F H Allport, *Institutional Behaviour* (Chapel Hill, 1933)

³ Cf F C Bartlett, "Group Organization and Social behaviour", *International Journal of Ethics*, vol 35, 1924-25, R E Park, "Human Nature and Collective Behavior", in *American Journal of Sociology*, vol 32, G L Coyle, *Social Process in Organized Groups* in Contemporary Society Series, ed by MacIver (Good bibliography)

⁴ B Bosch, "Massenfuhrer, Gruppenfuhrer", *Zeitschr fur padag Psychol*, vol 30 (6), 1929, H W Busch, *Leadership or Group Work*, chap v, Types of Group-Leadership (New York, 1934)

masses and crowds into different forms of group, each with a different educational influence in forming personality.

Let us consider in this connection the task of education and of the new social services. The social worker for instance is in a very favourable position with regard to his patient. He does not only meet him in an office or consulting-room but has access to the whole family, and insight into the whole social setting. Moreover, he is a "liaison officer" between the actual situations to be faced in society and our general social policy. He can steer both the super ego of the individual and the collective trend of public opinion. In a word, he can co-ordinate social change in terms of individual adjustment and of collective demands.

As we have seen, the drawback to the psycho-analytic approach arises from the fact that it has access only to the individual self. It is thus unable to cope with the paradox of the vicious circle. On the one hand individuals are determined by society, and on the other society is made up of individuals. For education and social work the solution lies in co-ordinating the attack on individuals and on the community.

Although these new trends and the psychological techniques mentioned in this chapter still are in the first beginnings it is very probable that they will develop, so that the new collective demands will gradually be controlled by cautious forethought and experiment. Just as rational legal regulation grew out of *mores* and customary law, so the taboos which regulate our habits will have to stand the test of scientific probing.

By accumulating many concrete experiences we shall know empirically how these standards work in different situations, and how far individual adjustment clashes with existing collective demands. A sound knowledge of the obstacles to individual adjustment and of the collective demands which are based upon the functional needs of society as a whole, will gradually lead us to redraft our moral codes. The educationalist and the representatives of the new social services have the special opportunity of standing at the cross-roads where they gain insight both into the working of the individual psyche and of society. They, more than others, have the power to link up the regeneration of man with the regeneration of society.

CHAPTER XX

EDUCATION AND RESEARCH

It is interesting to note that the subject of Education was not admitted to the reputable company of the Sciences until 1901, when it was included as Section L in the British Association for the Advancement of Science. This may be taken as respectful recognition of the experimental work that had already been carried out in the realm of education and an encouragement to the zealous worker to continue his researches. It would be idle to pretend that all the papers that have been read under Section L have been animated by the spirit of Science, but they have at least been characterized by honesty and faith, and these are the possessions, though not the exclusive possessions, of the scientist. Occasionally the objection is heard, even in such scientific company, that education is an art rather than a science and that to use the word "Science" in relation to education is to display ignorance both of education and of science. One consequence of this attitude is that opposition to educational research comes from more than one quarter—from the non-scientist who claims that he can do much better without it,

and from the scientist who distrusts the conclusions that have been based upon it. The truth is that education, like the science—or is it the art?—of medicine, is neither a science nor an art but a combination of both. To use the results of science wisely and delicately is an art. To be able to use the results of research and not be held by them is again an art. Failure to recognize this has often brought the applications of research into disrepute.

Objections such as the above are worth entertaining, if only as healthy correctives to those who maintain with Thorndike that "Everything that exists, exists in some amount and can therefore be measured." It is right that we insist at the outset that there are some things in life which must forever escape the attentions of the scientific investigator. Perhaps the greatest gain we have had from educational research, up to the present, has been the disturbance of our complacency. When in 1901 Thorndike and Woodworth published the results of their researches into the problem of Formal Training, their conclusions were described as "a veritable bombshell in the educational camp", for they seemed to shatter at a blow an age-long and cherished belief. Although these researches did not touch the real problem of mental discipline, they had several important consequences, chief among them being the impulsion felt by serious teachers in many countries to examine their aims and methods. Teachers of the classics are far more cautious than they used to be when they assert the disciplinary value of a classical

education Teachers of mathematics now show similar caution in their enthusiasm for mathematics This is all to the good of the subject and of the child who strives to learn it

Educational experiment, like all experiment, professes to follow scientific methods It is true that it cannot claim the exactness and precision of an experiment in physical science, but its aim is the same, to examine hypotheses and record results as faithfully and as accurately as the conditions allow That the research worker appreciates the difficulty of securing scientific accuracy is shown by the fact that his results are usually stated in terms of probability rather than of certainty, in other words, they have to be interpreted in terms of their probable error The great difficulty about all educational research is that it depends upon so many variables and that these are, in many cases, so very unstable and intractable The child is not submissive as the plant which can be safely and securely potted, he will not "stay put" If he does, he ceases to be himself and thereby becomes an embarrassment rather than a help to the experimenter The fact is, of course, that the child is a personality, a complex of intelligence, impulsiveness, and feeling, and is as unpredictable as this combination of qualities can make him An anxiety or an anticipated pleasure may render all attempts to assess his abilities futile It is for this reason that the wise investigator never relies upon a single estimate of intelligence Educational research demands more than scientific insight, it demands an understanding of human motives and

emotions The investigator who lacks this understanding or who fails to recognize the importance of it merits the distrust of those who prefer the less scientific way of intuition

It has been said that English education and the English Legal System have this in common, that they are based on law and interpreted by persons If it is true that laws are made to be interpreted, it is also true that the results of educational research have always to be interpreted by and in terms of persons. There are other problems of interpretation, however, which are more strictly scientific; they arise from the statistical nature of the results Even when the research has been carefully planned and faithfully carried out, extreme caution is often necessary in the interpretation of the results Some years ago an enthusiastic researcher made the rather exciting announcement that, by providing poor children with an ample breakfast before school, he had managed to secure a marked improvement in their intelligence. He was disappointed, and not a little resentful, when it was pointed out that he had not taken sufficiently into account the operation of chance. The educational research worker learns to distrust averages. He finds them useful but deceitful.

This long recitation of difficulties must not be taken to imply that educational research is valueless and that the energy expended upon it has been very largely wasted In spite of the difficulties and in spite of defects that are all too obvious, there still remains a substantial balance of genuine scientific work. It is true that there have been

few, if any, researches that could be justly described as "epoch-making", but there have been many which deserve to be styled "significant". Some may seem to the unscientific critic to do nothing more than prove the obvious, but the obvious is either hypothesis or prejudice, until it has been fully tested. We may agree heartily with Dr. Ballard that "the method of teaching subtraction by decomposition is a vicious method", but we are far more confident of our opinion when we learn that his strong preference for another method depends on something more than prejudice. He has well-attested facts to support him. The trouble about educational research is not that facts are not known but that they are not available to the average teacher. The research worker has had an encouraging harvest but his labours are not yet over. He has still to sift and winnow his crop, to separate the grain from the chaff. He has still to mill and refine the meal into an easily digestible form.

Educational research may be conveniently classified under three main heads :

1. The growth and development of the normal child.
2. The psychology of school life and work
3. The psychology of abnormality in ability and behaviour

1. Perhaps the most fruitful line of research, from the point of view of the teacher, is that which deals with the growth and development of the normal child. This has to do with the child's

intellectual and emotional development as these are exhibited in his personal interests and social behaviour. It is true that teachers have always been able to count among their numbers many wise and sympathetic observers, but they could hardly be expected to understand the underlying motives of a child's behaviour without special psychological training. Let us take the following episode as an illustration. The teacher of a London nursery school noticed that a little girl of three spent an hour or more trying to make a small prism of wood adhere to a larger block of wood of the same shape. She became at first exasperated and then distressed when the forces of nature refused to change their ways to suit her. Time after time the little block slid down. Tears gave place to joy when the teacher achieved the impossible by placing a small piece of plasticine on one of the blocks. The teacher interpreted the incident as a valuable first lesson in elementary science, for by practical experience the child had learned something about adhesion, and as if to drive the lesson home she repeated the experiment several times. An observer from a research department being intrigued by the child's efforts and her subsequent behaviour, said to her, not "What is this?" but "Tell me, Betty, who is this?" "Oh," replied the child, "that is my mummy, and that is me on mummy's lap." Further inquiry elicited the information that a few days previously there had come into the home a baby boy.

Considerable attention has been given in recent years to the characteristics of normal development

Such questions as the following have been asked: Are there any well defined stages in the child's development? What intellectual and emotional changes are to be expected in normal children as they progress from childhood to adolescence? What are the main mental and emotional characteristics of adolescence? What do we mean by "intelligence" and "personality", and how can they be developed? It would be idle to assert that we have reached finality on any of these questions, but the evidence is slowly accumulating from which reasonable answers to most of them may be given. Contrary to popular opinion, there is a dearth of well-trained observers, and, in this country at least, a serious lack of funds for this important work.

Perhaps the most intriguing of the problems coming under this head is that concerning intelligence, and is the one to which British psychologists have contributed most. The work which began with Professor Spearman less than forty years ago has developed almost into a business, engaging the attention of mathematicians and statisticians and a host of other skilled workers

In recent years increasing interest has been shown in problems of personality, particularly in the social development of the child. It is now fully realized that the social problems even of the young child are closely germane to those of adults. Social problems of adult life have hitherto been discussed without any reference to their genesis in early life. Our researches into the social impulses of young children show how important it is that these should

be wisely directed. On the subject of adolescence much has been written, but it is now the considered opinion of psychologists that the literature on this subject contains far more poetry than principles. There is urgent need at the present time for comprehensive research into the whole subject of adolescence. It is admittedly a difficult field of inquiry, for the thoughts of youth are not open to the casual inquirer.

2 It was natural that, in the first flush of enthusiasm, the research worker should have given special attention to problems of school life and work. He would not be slow to realize that teachers hold widely different views as to the method by which a particular subject should be taught. His sceptical mind would also raise doubts regarding principles and doctrines about which teachers seemed to be in fair agreement. One of these generally accepted doctrines was that of "mental discipline" or "transfer of training." This doctrine is sometimes stated in the following terms. Can we by exercising our minds on a particular subject, for example, Latin, strengthen our mental capacity as a whole? If so, is the strength thus gained available in other subjects or in other situations? In other words, are the effects of mental exercise general or specific? The traditional answer to the first of these questions was emphatically in the affirmative. It was said that the evidence, in the lives of successful men, was overwhelming. The researcher, nothing daunted, made the subject of mental discipline one of his first inquiries. When we state that his

early attempts to solve the problem were crude and clumsy and that they did not touch the real problem, we are only stating what has been true of many scientific researches. Unfortunately the conclusion drawn by Professor Thorndike from his first experiment that "improvement in any single mental function need not improve the ability in functions commonly called by the same name" was accepted with less caution than the data warranted, and less critically than Thorndike evidently intended. It was not until it was realized that the question was not whether transfer of training actually occurs but under what conditions it might occur that real progress was made.

As an illustration of the procedure let us suppose that we are investigating the value of geometry as a mental exercise. We may set ourselves to determine whether children who have been taught geometry in school can reason better in non-geometrical situations than those who have not, but we may go a step further and ask ourselves whether children who have been taught by what we conceive to be an "enlightened" method can cope more successfully with situations demanding reasoning power than those who have been trained by more conventional methods. It would then be possible not only to compare "enlightened" with "conventional" methods but also to compare each of these with no geometrical training at all. For such an investigation it would be necessary to employ at least three groups of subjects, the first being taught by the enlightened method, the second by the conventional method and the third

being denied lessons in geometry altogether. An investigation of this kind has actually been carried out. The conclusions have been set forth with commendable scientific restraint as follows: "The data would seem to offer conclusive evidence, in so far as one experiment can be considered to do so, that when pupils are taught to use, consciously, a technique of logical thinking, they try more varied methods of attack, reject erroneous suggestions more readily, and without becoming discouraged maintain an attitude of suspended judgment until the method has been shown to be correct. Furthermore, the results in tests of reasoning other than geometrical would seem to indicate that such training in logical thinking with the material of geometry tends to carry over these methods of attack and these attitudes to other problem situations not concerned with geometry." It seems, then, that a training in geometry has disciplinary value, in so far as its logical principles are consciously recognized and applied.

Somewhat similar conclusions have been reached in other researches on mental training. Woodrow found, in a research on memory, that unintelligent memory drill had little value compared with memorization which followed an enlightened technique of procedure (attention to meaning, learning by wholes, the use of grouping and rhythm, etc.). This would seem to be obvious but it is surprising how few teachers think of training their pupils in the art of efficient memorization.

It is not very easy to extract from the many researches that have been made on transfer of

training and from the interpretations that have been placed upon the results any general principle. The conclusion seems to be that transfer of training depends upon the conscious acceptance by the learner of "methods", "principles", "procedures", "ideals" and "patterns of thought". Perhaps the most important word in this statement is the word "conscious". Evidently the method is of far greater importance than the subject of instruction. Professor Burt has summed up the modern view very clearly in a Report presented to the British Association in 1930. "Transfer of improvement occurs only when there are *common usable elements*, shared both by the activity used for the training and also by the activity in which the results of the training reappear. The 'common elements' may be elements of (i) material, (ii) method, (iii) ideal, they are most 'usable' when they are conscious. A common element is more likely to be usable if the learner becomes clearly conscious of its nature and of its general applicability. active or deliberate transfer is far more effective and frequent than passive, automatic, or unintentional transfer. This seems especially true when the common element is an element of method rather than of material, an ideal rather than a piece of information."

The doctrine of mental discipline has been taken as an illustration of the problems that have been put to the test of experiment. It cannot be maintained that the last word has been said on that subject or that finality has been reached on any of the other problems which have excited the attention

of the research worker. It can be claimed, however, that the practice of education has definitely benefited from the labours of the researcher and that the benefit would be even more pronounced, were teachers everywhere permitted to live by the knowledge and the faith that is within them.

3. If there is any educational topic, which never fails to attract an audience, when it appears on a conference programme, it is some aspect of abnormality. Driven partly by necessity and partly by concern, teachers everywhere are anxious to learn how to teach dull and backward children and how to manage the unruly and delinquent. They very soon learn that they cannot attempt to help the backward or check the unruly, until they have studied the underlying causes of the abnormal child's condition. These causes generally lie deep and the interesting thing is that they are so very often the same, whether they are dealing with a case of backwardness, or of delinquency, or of morbid anxiety. Perhaps it is a strong sense of inferiority, perhaps some personal need that has not been satisfied. Professor Burt has given a vivid description of the subnormal child in his *Young Delinquent*. "The dim, half-realized sense of their inborn inferiority, an inferiority which they cannot help, but for which they are incessantly blamed, may act as a rankling grudge against the world in general, or against their luckier relatives or schoolmates." Inferiority and delinquency are so often found together.

Perhaps in no department of educational research have the results been more encouraging than in that

which concerns the abnormal child, the child who is in a very real sense mentally unhealthy. Thanks to the magnificent work that has been done in Child Guidance Clinics in this country and in America and to the pioneer work of Professor Burt in London and Dr Healy in Chicago, it has been possible to re-establish many a boy and girl who would have become a burden on society.

One outcome of the research that has been done on the abnormal child is seldom mentioned. Workers in Child Guidance Clinics soon realized that children became neurotic or delinquent, not because of some constitutional defect in themselves, but because they had been denied some fundamental need—of security, of affection, of freedom, of personal recognition. So, from a study of the abnormal child, we came to know far more than ever before the nature and the needs of the normal child. When we know the child's needs, we can take steps to satisfy them.

CHAPTER XXI

INVESTMENT IN EDUCATION

It used to be said that the Renaissance comprised " the discovery of the world and of man " In such broad terms the Renaissance, if it ever had a distinct beginning, has never come to an end Similarly with the advent of industrial capitalism It is puzzling nowadays to discover more in it than an acceleration of the embodiment of scientific discoveries in new technologies and their consequences It seems to have had no beginning and certainly as yet there is no ending Yet industrial capitalism is in being, however much some people may boggle at the term It is a well-worn theme that industrial capitalism, or if it be preferred capitalist industrialism, brought with it new economic and social relationships, a new conception of the State and its functions, new patterns of behaviour and culture—" new " being interpreted in an evolutionary sense and it being allowed that old and new continue side by side. Economic and political individualism, the liberal state, the differentiation of classes, the urban proletariat and the rural proletariat, the dominant bourgeoisie, grand or petty, the " opening-up " of backward areas and the exploitation of " backward " peoples . . . These and other develop-

ments produce their own appropriate institutions and are associated with their own appropriate behaviour patterns and chains of events. While much is said of national character—of the distinctiveness of the Englishman or the Frenchman and their civilization—it is abundantly clear that wherever it has taken shape the phenomena of industrial capitalism are pretty much the same, allowance being made for such factors as speed and depth of development. Political democracy has appeared, with greater or less completeness, as its political framework in Asia, America, and Europe in all industrialized and industrializing communities. economic democracy has been postulated as the necessary complement of political democracy by the labour movements of all the countries in which an industrial proletariat has been differentiated. The characteristic motives of industrial capitalism are incandescent in the writings and preachings of Dr Samuel Smiles, and other prophets, major and minor, of the world's Victorian Ages. Institutions as surprising as the weekly wage-system, are common to its various centres. The bowler-hatted suburbans, whose lives are incomprehensibly disturbed by such uncontrollable events as wars and rumours of war, are a universal variation of its wage-earning proletariats. The high-powered Press, highly integrated and monopolistic and void of any clear belief save in the necessary continuance of the industrial capitalism which gave it birth, is the odd agent of amusement, exponent of culture, and purveyor of "news" (which, in turn, has its own peculiar features under industrial capitalism).

It is the purpose of this chapter to make a historical comment on the educational system of English industrial capitalism, particularly in its economic aspects

The similarities of English education and that of other capitalist countries are at least as striking as the differences, but there are differences. In no comparable country, for example, has the social and cultural ideal of an earlier age been maintained so tenaciously as here, and this persistence of the ideal of the English gentleman, however expensive in its results, has to some considerable extent dominated what is generally known as "the tone" of our education. Foreigners have observed this more readily than we have ourselves, as readers of Dibelius on *England*, to recall one example of many, cannot fail to remember. It may be, as one of them said, that we preserve everything in England and so the ideal of the English gentleman has survived. But it has been so powerful an agent in keeping the past alive in the present that a less superficial explanation is required. Such explanation is more readily found when this influential survival is associated with another of the differences between English education and that of other capitalist countries—the extent, that is, to which our educational system is inegalitarian, or lacking in equality of opportunity, or class-ridden, or based on the income-structure of the country (whichever sort of term be preferred). If no satisfactory definition of "social class" is available, it is at least reasonable to suggest that social classes may be described in terms *inter alia* of the amenities

and disamenities of the lives of their component members. The people who live in slums are not as the stockbrokers, nor are they likely to send their children to the same schools or to have to deal with the problem of their intermarriage.

The English school system is a system of loosely related parts. There are connecting-bridges between most but not all of them, but the bridges are narrow and comparatively few are those that cross them. This disconnectedness is reflected in the organization of the professional associations of those engaged in educational work—there is a Headmasters' Conference for the aristocracy and a Headmasters' Association for the commons; University teachers (excluding most of the teachers of Oxford and Cambridge) combine in their own body and it is separate from the associations of secondary and elementary teachers. The National Union of Teachers has made some show of a united front but it amounts to very little. Further, the voluntary tradition has remained so powerful in English education that teachers are not civil servants and are unlikely, to all appearance, to become civil servants for a long while ahead, if ever. Responsibility nowadays is divided between central and local authority, while religious and other bodies still play their quite influential parts. There are schools for the wealthy outside the public system, even though they be called public schools and command endowments meant originally for the poor.

An examination of our expenditure on education is illuminating. During the present century there has been at least a five-fold increase (including

school meals, medical services, and the cost of Approved Schools) · from £20 millions in 1900 to rather over £105½ millions in 1935, in Great Britain¹ At the beginning of the reign of George V the Exchequer was spending the equivalent of 15s 6d per head of population, and at the end, this had increased to 42s Expenditure on elementary education in this period had increased from £23 millions to £64.7 millions, an increase per child from 86s in 1909-10 to 263s. in 1934-35, while on higher education it had risen from £4.2 millions to £18½ millions in the same period Taking higher and elementary education together, the Exchequer share of total costs has fallen from 51.8 per cent to 51.1²

But such figures are not complete. They refer only to that part of the educational system which falls within the financial purview of the State Outside the grant-aided educational institutions are those schools and other teaching institutions which are not inspected by the Board of Education or under the supervision of local education authorities, and which do not receive assistance from the public purse. Such institutions include at the one end the suburban private school, to which middle-class parents send their offspring so that they may neither learn to use bad language nor catch pink-eye, and at the other the very expensive establishments through which the wealthy pass into the higher

¹ PEP, Report on *The British Social Services* (1837), p. 54

² *Education in 1935* (H M Stationery Office, 1936) This is the Board of Education's Report for 1935 It contains a valuable historical survey of education covering the years from 1901-35

civil service or the upper grades of engineering and the cheap "colleges" from which the non-wealthy get minor clerical jobs or pass into the service of accountancy. There are too, the great private schools, miscalled public, which are the subject of perennial controversy but are basic to our aristocratic social system and set the "tone" of the whole system of English education. It is both characteristic of our capacity to work even muddled institutions and unfortunate socially that we know very little about the economics of these very important non-public parts of our educational system. We know that the expensive places are expensive and the cheap places cheap, just as we know that the educational methods at the expensive end and perhaps the cheap end alike vary from the effective and enlightened to the sadistic and stupid. It has been calculated that between 1851 and 1929 60 per cent of the Foreign Office and Diplomatic Service were educated in the eleven premier public schools and 89 per cent of our bishops and deans, over 70 per cent of our Indian civil servants and governors of dominions and of our bank and railway directors are similarly derived.¹ The "freemasonry" of Wykehamists is well known, equally the public school domination of jobs as well as "tone." Even without financial statistics, it is clear that the English educational system closely corresponds to its social structure and effectively bars the way to equality of economic opportunity. It is not, of course, the only barrier

¹ L. B. Pekin, *Public Schools* (1932), p. 11, and R. H. Tawney, *Equality* (1931), pp. 92-95.

to economic democracy. The educational ladder by which the poor may climb to the bourgeois status has been widened at the bottom as well as the top, yet the public schools win a higher proportion of boys' scholarships at Oxford and Cambridge than the council secondary schools. What the explanation of that apparent superiority is, no one positively knows because adequate information is not available. Yet it may safely be guessed that a very important part of the explanation lies in the fact that only one in eight, in 1934-35, of the pupils of grant-aided schools stayed on at school beyond the age of 18. That figure represents substantial progress, for it was only 1 in 12 in 1914-15.¹ The reason both for the smallness of the proportion and its improvement in recent years is, presumably, to be found in economic circumstances.

The cost of education to the parents as well as to public authorities is another branch of the economics of education upon which little can be said statistically. Only in elementary education has the abolition of fees been found generally possible, and presumably only there because it was found necessary. It is not enough to say that when education became compulsory it had also to become free. Compulsory education was not merely a political necessity—"we must educate our masters", as Lowe put it after the extension of the franchise to urban workers in 1867—it was also an economic necessity. In both town and country the destructive employment of children had to be curtailed, and

¹ G. A. N. Lowndes, *The Silent Social Revolution: An account of the expansion of public education 1895-1935* (1937), p. 101.

children to be made more useful through the acquisition of an elementary knowledge of the Three R's. The abolition of fees in elementary schools only dates from 1891. By that time industrialism had developed sufficiently to render parents less dependent on the pittance their children earned than had been the case earlier in the century. The conditions of employment had changed too. In rural areas farmers still wanted cheap labour—the coming of compulsory education coincided with a revival of village trade unionism, which sent up wage-costs, and with the onset of agricultural depression. Falling prices from 1873 to 1896 and cheap imported food-stuffs (frozen meat as well as cereals and cheese) helped the labourer, unless unemployment (due to letting arable down to grass or other means of adaptation to hard times) was his lot. If he came only slowly to value education rather than to resent it, the victory of the schools had been won by the end of the century even though rural counties had rather sluggish educational authorities. Similarly in the towns. The rapid strides of industry, whatever brief spells of technological unemployment there might be, brought a widening range of employments, skilled, semi-skilled, and unskilled. Better educated workers were needed and so by the end of the reign of Queen Victoria the social function of education was more clearly envisaged. The "silent revolution" was quickening now that at last the period of voluntary education was over.

Yet the middle-class remained outside the public system as they still do for pre-secondary education. For that preference for inferior schools they must

not be simply dubbed stupid. Until a new tradition and new methods had set in, they could not normally be blamed. The new tradition was urgently needed. Like the poor law, education was regarded in the light more of a social-police service than as a means of revealing and enriching the community's inheritance. How could it be otherwise? In the earlier decades of the century, education was regarded as a means by which hewers of wood and drawers of water could be conditioned to the new industrialism—made docile, sensitive to the conventional stimuli of acquisitive capitalism, politically innocuous. The connection of the State with education was limited to an exiguous building grant and to the enforcement through its factory inspectors of the minimum of education prescribed by law for factory "inmates" (as contemporaries sometimes called them). The State—to personify it—came into contact with education, also, through the pressure upon its system of criminal administration of its all-too-ample manufacture of juvenile delinquents. An optimist in Queen Victoria's coronation year could "assume that education without the walls of a prison will soon rise to the level of, and advance beyond, that which we should advocate for adoption within the walls of prisons." It was still left to a Children's Friend Society or a Ragged School Movement or other voluntary agencies to do as social salvage work what was being done to educate "the lower orders", and illiteracy could still be left to take care of itself. It is true that skilled workers and Chartists asked for education in all sorts of

ways, direct and indirect, but they were politically unimportant, so that it was unnecessary to take any notice of them. When foreign industry began to show an inconvenient efficiency, as was visible at the fashionable International Exhibitions which followed the pioneer effort of 1851, working men pointed out in no uncertain way that technical education was sadly lacking here. Their employers all too often preferred to blame high wages rather than the neglect of technical education for the foreigner's competitive advances. But that question, like the education of factory children and juvenile delinquents, seemed to have a proletarian rather than a middle-class relevance, and so a narrow educational tradition persisted. Middle-class folk could look after their own—they asked nothing of public education because they did not need it. And when, at last, public education did come, it was given a typical Victorian-capitalist form. It was saddled to the payment-by-results system, and so was completely inappropriate to the dominant class in our economic and political system. For effective discussion of the quality of public education in its early stages, one has to go to the inspectors and the teachers—the middle-class were interested only in its costs. It has not been usual to drag trade-union journals, like, say, the *Beehive*, for material on educational history, but they are an important if neglected source. In their own rather silent and muddled way the middle-class, then, acquired its own schools, primary, secondary and technical, and after the middle of the century, its own universities. Thus have emerged those

odd transformations of old endowments and old mechanics' institutes which are a familiar feature of our educational system to-day. They exist alongside the new public and semi-public educational institutions of 1871 and subsequent years, and are gradually brought within the scope of the public system. In the main, nowadays, the secondary schools are schools which contain both fee-paying and free-place pupils, while the elementary schools are schools mainly, but less so than in the past, for the children of the working-class. Occasionally the voice of reaction is openly heard, as in the notorious May Report of 1931, protesting that the schools of the latter are as good as those of the former and that this is intolerable. But even that powerful voice has not succeeded in putting the educational clock back.

The maintenance of separate, or partly separate, schools has been an expensive luxury for the middle-class. It may have been also for the community, but it certainly has to those who burden their most active years with the costs of their class distinction. Again, adequate statistics are not available to show the real cost and the social importance of this feature of our educational system. The demand for "secondary schools for all", that is for all who are fit to profit by them, has been made, but save in a few advanced centres it has fallen on deaf ears. Towns like Bradford and West Ham have a very honourable place in recent educational history, but that history makes little appeal to our dominant middle-class. Its members limit their families and hang on to their privileges rather than face the logic of that history.

The "educational ladder" is clearly of fundamental importance in our educational system. For many years now we have been told that our population is losing in quality. Eugenists tell us that we are breeding at the wrong end of society, business men that they cannot discover talent adequate to the needs of business, soldiers that it is difficult to get good N.C.O.'s. The method which has been developed to recruit ability is the method of "cream-ing" the elementary schools by a system of "scholarships" for the secondaries, and rewarding the intellectuals of the secondaries with scholarships to the universities. The present phase of family limitation began with the great depression of 1873 to 1896, and as that depression yielded to the more profitable expansiveness of the twentieth century, a great increase was inaugurated in the public provision of scholarships from the elementary schools. If at the end of the last century, four or five in every thousand of elementary pupils got to the secondaries, by 1934 the number had increased to 119 per 1000. The odds against the transfer had fallen from 270 to 1 against in 1894 down to 11 to 1 against forty years later¹. In the same way a strengthening of the next link in the scholarship chain has been effected. In 1929 the universities admitted 3638 new entrants who had passed through grant-aided secondary schools and in 1935 the total was 3824, but it had been 4132 in 1931 and in both these later years the total intake of the universities was above that of 1929. It may be that we are retreating rather than advancing in this present span of years.

¹ G. A. N. Lowndes, *The Silent Social Revolution* (1937), p. 101

The Parliamentary Secretary to the Board of Education in the debate of June 20th last, on Education Estimate for the year, admitted a reduction but confessed his inability to explain it. The State scholarships, he pointed out, had been increased by 120 to a total of 360 in the last two years, and the total percentage of pupils from public elementary schools proceeding to secondary schools has risen from 71,000 to 78,000, or from 76 to 81 per cent¹. Rather more than half, 56 per cent of the State scholarships are won by these transferred ex-elementaries, and an unknown percentage is won by them also of the Local Education Authorities' awards. Some of these, but again an unknown percentage, duplicate, that is, are supplementary to the awards by the universities of their own scholarships. But nothing like a complete picture of the educational ladder can be given. Stark figures were derived by Mr David Glass and Professor J. L. Gray² from a careful investigation of the scholarship system at the older universities, but they were repudiated by Mr. Kenneth Lindsay in the House of Commons³. For their figure of 27 per cent of ex-elementary boys at all universities and only 12 per cent at Oxford and 13 per cent at Cambridge,

¹ These figures were given by the Parliamentary Secretary in the debate of June 20th, 1938. But the Board's pamphlet, *An Outline of the Educational Structure of England and Wales* (1937) states that "about half the pupils in publicly aided secondary schools pay full fees" (p. 20), so that a considerable proportion of the special places are held by pupils paying part fees.

² See their chapter in *Political Arithmetic* (1938), edited by Prof L. Hogben. Prof Gray's *The Nation's Intelligence* (1936) should also be consulted on this subject.

³ *Hansard*, June 20th, 1938, vol. 337, no. 130, p. 736.

he gave 42 per cent, and 22 and 23 per cent respectively. Sir William Beveridge accepted the official figures¹ and explained that the Glass-Gray estimates rested on a misreading of a Board of Education return. Yet what is most striking is, surely, the slenderness of the ladder. In 1936 the sum total of the full-time students of the universities was about 40,000, while 5½ millions made up the elementary school population. As only 11 per cent of our elementary pupils go on to secondaries at all, and as only a low proportion stay on after 16—only 14.3 per cent, or 65,305 in March 1935 of the 456,783 in attendance then at grant-aided secondary schools—the educational ladder would be better described, perhaps, as a fine-tooth comb. It hardly needs an armoury of statistics to indicate the probability that poverty remains now, as in the past, the main agency of selection. Does it need argument that the public provision for education calls for a great deal of expansion in this sphere if “secondary education for all” is to be permanently repudiated and the social desideratum of “creaming the elementary schools” remains? A little pump-priming is necessary here, or a more up-to-date separator.

¹ See his letter to *The Times* of June 25th, and his previous article of June 16th, 1938, summarizing and commenting on the papers of Professor Gray and his colleagues in *Political Arithmetic*. A further letter to *The Times* of July 5th from Mr. Glass admits that the Glass-Gray figures were too low, explains the source of the divergence, shows that “no one really knows how many ex-elementary school boys or girls there are in the undergraduate population of the universities and particularly of Oxford and Cambridge”, and indicates the impossibility, without information not at present available, of explaining the gap between the figures of the Board of Education and the University Grants Committee of ex-elementary pupils in the universities.

It is sometimes maintained that the process of pumping ability up from below has gone too far—that, in actual fact, we are extending our scholarship system too widely. Others besides Dean Inge have postulated a special correlation between wealth and ability, and many have contended that lightening the burdens of taxation upon middle-class families would enable them to maintain larger families. Dean Inge has assured us that we are breeding our own barbarians for the destruction of our civilization, instead of importing them as was the manner of ancient civilizations. It is gloomy to imagine what would happen to us if we abandoned such current social habits as child malnutrition! Meantime the results of the State scholarship system are encouraging to those who believe that there is still a great reservoir of ability in the lower ranks of society. Of the 352 candidates placed in 1935 in Class I of the Oxford Final Honours Schools or Cambridge Triposes, 171 (including 80 State Scholars) received their previous education at grant-aided secondary schools as against 132 at other English or Welsh schools. Out of 701 open scholarships at the same universities, 372 came from grant-earning schools and more than two-thirds of these had been previously educated in public elementary schools. Information is available only for the old universities, where most State scholarships find their location. One can only guess that if the newer universities could be surveyed statistically, their results would emphasize the general conclusions. Fortunately, a very careful survey has been made of educational oppor-

tunity¹ by Professor Gray and Miss Moshinsky, which does much to fill the statistical lacunæ, and to supplement the above official figures. They find evidence of serious maladjustment between ability for higher education and opportunity of it. Using the Otis Intelligence Test, they find greater ability in the children of the professional and higher business groups than in those of shop-keepers, farmers or wage-earners, but they find also that the former command a higher proportion of educational opportunities, and the latter a lower, than they are entitled to. The parents' income, not the child's ability, is the determinant to far too high a degree. Out of every eight children of equal ability seven fee-payers will get higher education and only one free. If one criterion of ability be used, 45 per cent of the children in the school population who are capable of profiting by it miss the opportunity of higher education. On another and lower test, 59 per cent miss it. And of those fee-payers who do get it, almost half fall below this lower test. It is satisfactory that "nearly all the children of the Larger Business and Professional Classes who possess ability have the opportunity of higher education." It is not satisfactory that "the corresponding figure for Clerical and Commercial Employees is approximately 50 per cent." It is still more unsatisfactory that 70 per cent of the children of skilled wage-earners and 80 per cent of the children of unskilled wage-earners lack the opportunity.

¹ Reprinted from *Adult Education* and the *Sociological Review* in *Political Arithmetic* (1938)

The growth of the scholarship system is a remarkable feature of recent social history, but it is not yet as good as it ought to be. Equality of educational opportunity means that educational opportunity should equate with ability. What is the case against such a system? Why does it not operate? Is it that equality of educational opportunity might lead towards equality of occupational opportunity. Until 1932, the Colonial Office retained the system of patronage for first appointments. Private Secretaries made the selection and they would not fail to choose new entrants from the right schools and the right universities. In engineering there are apprentices and premium apprentices—the latter are not regarded as cheap labour. An aspirant for employment in the B.B.C., it is said, was asked which of the two universities he belonged to—sensing correctly the outcome of his answer, he said in his broadest Doric that he had been to both Leeds and Sheffield. The weighing of subjects in the higher civil service examinations gives a very great advantage to aspirants from the older universities. Town clerks have ordinarily been pupils of other town clerks. Our occupational structure in its class aspects might be illustrated in many different ways and to this occupational structure the educational ladder provides access. If we have invested heavily, as a community, in education, we ought to make sure that we maximize our social dividend.

"There is no shortage of gifted children in the community," says Professor Gray. If then a large proportion is lost, or rather, has no opportunity to

climb by the scholarship ladder, is it caught by the vocational education of our technical, art, and commercial schools? The 1,200,000 part-time, mainly earning students who work in them have been described as "with their teachers a great brotherhood of earning and learning". Doubtless many of them do great things as a result of that fellowship in vocational training—no figures are available. Only 30,000 part-time day-students are released by their employers for such training in working hours, and these schools, unlike those of some other countries, are not organically connected with industry. We have no "national grid of technical education" (as the Parliamentary Secretary said recently) "which will carry a constant flow of power into industry and commerce". Co-operation has improved, no doubt, in recent years, but with all its very substantial virtues, it falls below need and demand. This country has a sluggish tradition in this department of educational practice. Is it not true that here (as in adult education) studying internal combustion engines is regarded as intellectually a less exalted, an inferior activity than studying the intricacies of Greek syntax? Again, a more liberal tradition—for the Classical tradition is illiberal in our day—and reorganization are called for. It was working-class pressure which brought improvement, such as it was, in mid-Victorian times, and it looks as though it will have to be so again.

And what of the teachers? They occupy the key position in our educational evolution, they and the inspectors. They have gained much in status

and something in emoluments Their training is better organized and more purposive than it used to be To compare the teacher of to-day with his predecessors before compulsory education and the final attack on illiteracy, is to compare two different epochs. But much remains to be done We retain differences of status and emolument as between the different grades of education In England, the educational requirements are still too low for elementary teachers—those of us who have examined for the Teachers' Certificate know that it is nearly impossible to fail—and the course of training is too short. But the pupil-teacher system has well-nigh gone and the "movement away from the earlier conditions in which elementary schools and the teachers employed in them constituted a separate educational sphere" (the Board claims) has begun. Yet teaching is not a *profession* as the law is, and its salary scales are modest. The unmarried teacher can manage a holiday abroad, but the married teacher has all too often to scratch about, to work long and poorly paid hours, for example in evening schools, in order to keep his building-society roof above his heavily taxed head The Burnham Scales have enabled wealthy areas to capture the best teachers, and educational opportunities are for this and other reasons unequal between areas, as well as between social classes Teachers have a reasonably good contributory superannuation system and this too has helped to raise the status of the teaching profession The result has been to enable the newer universities to maintain large Faculties of Arts, mainly peopled by intending teachers, as well as

large Faculties of Science. It might be said nowadays that the differentiation of new disciplines to meet new occupational needs is slower than need be. If so, the fault lies with the universities rather than the schools. "Oxford or Cambridge qualification essential" is still a common condition for school posts, and private employment agencies, which are very expensive to the teachers and do no service to the school outside the range of possible public agencies, still flourish. These things have a backward look about them. But the enormous growth of the schools in the present century has proceeded smoothly. Staffing problems have been successfully met. Teachers are as near to being a *profession* as, say, engineers were seventy or eighty years ago. Current population trends will increase the social estimation of their work. They are still a little shy of telling the world the penalties of large classes, and the prevalence of filthy and sometimes indecent school buildings. Their constructive criticisms are not too articulate outside their own professional associations. But there is a good deal of justification for the claim that, despite the May Committee's failure to understand what education means, our great public investment in it, and the imponderables it brings with it, are the greatest of all the achievements of the liberal state. In his peroration in this year's debate on the Education Estimates, the Parliamentary Secretary to the Board of Education suggested that if you "cannot teach tolerance, kindness, vitality, leadership, citizenship or appreciation of beauty", you can embody them and encourage them in school

EDUCATING FOR DEMOCRACY

buildings and in the spirit of the teachers. We are likely to get further progress in these, and related, fields in the future, given political stability, but the time for any revival of complacency or reaction has certainly not come yet.

CHAPTER XXII

EDUCATION AND POPULATION CHANGES

INTRODUCTION

IN a previous chapter, Sir Percy Nunn has referred to the education of the young in primitive societies. This aspect of early communal life must be ranged with the other aspects, the provision of shelter, the getting of food, and the defence against enemies. To-day, in a modern state, considerable attention is given to the same things, the Government still has Defence as a major problem, Housing has become a matter for the community rather than for the individual, and the Food problem in one form or another, of quality or quantity or price is the subject of regular reports. The way in which the national income is divided between the various forms of public and private enterprise depends on the public conscience and on the relations of the State with other states. One form of public and private enterprise which has survived from early times is the education of the young. In more recent times, in this country, this matter is regarded as a duty of the community, rather than of the individual, at any rate as far as elementary education is concerned. As such, it is in competition with the other forms of

public activity, when budget time draws near. Those who favour an extension of the public education services must either persuade the Government that more of the national income should be devoted to this purpose, at the expense of some other, such as defence, or they must persuade the community that this extension of community responsibility is more important than some other forms of private spending. At a time of crisis there is always the risk that expenditure on education may be reduced in order to provide more for some other purpose.

THE DECLINING NUMBER OF YOUNG

The general problem of the educationist, of how the young should be initiated into the duties and responsibilities of citizenship, is now complicated by the fact of the young comprising a smaller part of the population. In 1871, 23 per cent of the population of England and Wales consisted of young persons aged 5 years and over, but less than 15. Fifty years later, the proportion of such persons was 19 per cent. In 1935, the figure was estimated to be 16 per cent. Furthermore, in more recent times, not only is the number of such young persons a diminishing proportion of the population, the actual number of those aged 5-14 is on the decline, although the population is still increasing, and is expected to increase to the decade 1940-50. In 1911 and in 1921 the number of boys and girls in England and Wales, of these ages, was about 7.2 millions. In 1935 the number was estimated to have been 6.6 millions.

EDUCATION AND POPULATION CHANGES

An important estimate made by the Government Actuary's Department, on the future trend of the elementary school population, is given here, together with comparable figures for 1932.

NUMBER OF CHILDREN ON THE REGISTERS OF PUBLIC
ELEMENTARY SCHOOLS (ENGLAND AND WALES)

Age	At 31st March 1932 (000's)	Estimated (000's)					
		1943			1948		
		(a)	(b)	(c)	(a)	(b)	(c)
5-10	3573	2955	2836	2718	2955	2836	2718
11 and upwards	1846	1553	1553	1553	1506	1445	1385
Total	5419	4508	4389	4271	4461	4281	4103

The three estimates (a), (b), and (c) were based on the assumption that the annual births would be 625,000; 600,000; 575,000 respectively, and that the proportion of survivors to school age would be similar to that in recent experience. The following figures give the number of annual births in England and Wales in the years 1930-36

1930	1931	1932	1933	1934	1935	1936
649,000	632,000	614,000	580,000	598,000	599,000	606,000

The Government Actuary's estimate shows that a drop of about 20 per cent in the elementary school population may be expected in the very near future

THE SHIFTING OF THE POPULATION AND ACCOMMODATION

In the period 1905-25, it is estimated that there was accommodation in the public elementary schools for about 7 million pupils. During the year ended March 31st, 1936, 107 schools were closed. During

the same period 131 new schools were opened, and preliminary proposals for 215 new schools were approved. It must be remembered that considerable population movements have taken place within the country since the war. The Registrar-General estimated that between 1921 and 1931 the South East (London and the Home Counties) gained on account of migration from other parts of the country about 650,000 persons. In the same period Durham and Northumberland lost by migration about 200,000 persons, while South Wales lost about a quarter of a million. The population of Slough increased over 20 per cent in the four years 1931-35. This very considerable shifting of the population of the country in a comparatively short period has, naturally, increased the problems of local authorities in regard to school accommodation. Most families which are constrained, or which choose to move from one part of the country to another, do so on account of the earner in the household. There are comparatively few who are enabled to locate themselves in a favourable position near a school. We therefore get a situation with an insufficiency of schools in new residential areas, and a superfluity in the older areas which are being deserted. Thus, even with a declining school population, new schools must be built.

ATTENDANCE AT DIFFERENT KINDS OF SCHOOLS AND COLLEGES

Not all children of school age are in attendance at public elementary schools. In the table on page 403 there are shown the numbers of persons of various

EDUCATION AND POPULATION CHANGES

ages together with the numbers at various types of school and college

NUMBER OF PUPILS ON THE REGISTERS OF CERTAIN TYPES OF SCHOOLS (ENGLAND AND WALES)*

Age	Estimated Population, 31 March 1936	Elementary	Grant aided Secondary	Junior Technical, etc., and Pupil Teachers	Total	Per Cent of Population
3, 4	1,138,000	159,509	133		159,642	14 0
5	590,000	496,972	1,182		498,154	82 9
6	591,000	543,275	2,042		545,317	92 0
7	592,000	549,155	2,694		551,849	93 2
8	595,000	550,648	4,242		554,890	93 0
9	611,000	571,320	6,964		578,284	94 5
10	628,000	583,588	12,021		595,609	95 0
11	640,000	562,266	42,612		604,878	94 5
12	657,000	545,551	78,548	850	624,949	95 0
13	681,000	546,833	81,798	4,326	632,957	93 0
14	728,000	175,235	81,670	11,018	267,923	36 3
15	771,000	21,113	77,784	9,280	108,177	14 0
16	739,000	2,660	46,070	3,115	51,845	7 0

* From *Education in 1936*, Cmd 5564

In 1936, it is estimated that about 93 per cent of the children of ages 5 or more and under 14 are on the registers of grant-aided schools of one sort or another. After age 14, the percentage declines with each year. The percentage of those aged 14 (36.3) is interesting in view of the raising of the school leaving age to 15. The percentages of children at grant-aided secondary schools for the significant ages 11-16 are .

Age	Per Cent of Population
11	6.7
12	12.0
13	12.0
14	11.2
15	10.1
16	6.2

The total number of persons at grant-aided secondary schools at March 31st, 1936, including those aged 17 and over was 463,906. In an interesting paper by David V. Glass and J. L. Gray, entitled, "Opportunity and the Older Universities", in *Political Arithmetic*, edited by Lancelot Hogben, F R S (Allen & Unwin, 1938), estimates are made of the total number of schoolboys at all "secondary" schools, including the public schools. The authors give a total school population for the year 1933-34 at such schools as 276,912. Of this total, 241,854 are at grant-aided secondary schools. It appears then that about 87 per cent of the pupils at secondary schools are accounted for by the grant-aided schools. Altogether, about half a million boys and girls are in attendance at secondary schools of one sort or another.

In the table on page 405 the changes with time in the numbers in attendance at grant-aided schools and colleges are shown.

In this table some of the young persons of elementary school age (5-14) are in attendance at secondary or other schools, and some of those over 14 are in attendance at elementary schools. It will be seen that the proportion of those of elementary school age in attendance at the grant-aided schools is greater since the war than in 1913. Moreover, the proportion has tended to rise in the past ten years. The effect of the declining birth-rate is noticeable in the difference between the numbers in attendance of those aged 5-14 for the years 1933 and 1936. There is a drop of about 450,000.

EDUCATION AND POPULATION CHANGES

THE NUMBERS OF ADOLESCENTS

Considerable changes have taken place in the numbers of young persons aged 14 and over but under 17. In 1923 there were 2,201,000, in 1933 there were 1,660,000, and in 1936, 2,285,000. The

POPULATION AND FULL-TIME ATTENDANCE AT GRANT-AIDED SCHOOLS AND COLLEGES (ENGLAND AND WALES) *

Year	Ages 5 and Over but Under 14			Ages 14 and Over but Under 17		
	Population	Full time Attendance	Percentage	Population	Full time Attendance	Percentage
1913	(000) 6551	(000) 5798	88.5	(000) 2049	(000) 120	5.8
1923	6071	5588	92.0	2201	324	14.7
1924	5883	5434	92.4	2202	330	15.0
1925	5945	5400	90.8	2162	326	15.1
1926	5962	5457	91.5	2124	333	15.7
1927	6015	5491	91.3	2113	338	16.0
1928	5967	5466	91.6	2118	343	16.2
1929	5920	5414	91.5	2111	354	16.8
1930	5911	5444	92.1	2042	364	17.8
1931	5918	5456	92.2	1956	364	18.6
1932	6003	5560	92.6	1756	342	19.5
1933	6066	5631	92.8	1660	336	20.3
1934	5843	5495	94.0	1870	426	22.8
1935	5674	5324	93.8	2098	428	20.4
1936	5557	5186	93.3	2285	434	19.0

* From Statistical Abstract, 1936

decline in these numbers in the years 1931-33 is attributable to the decline in the number of births in the years 1917-19. The relation between the annual number of persons aged 14-17, and the number of births in the corresponding years can be seen in the table on page 406.

The very high figure for 1936 of young persons

EDUCATING FOR DEMOCRACY

aged 14-17 is connected with the high figure for births in the years 1920-22. The subsequent figures giving the number of births in three-year periods indicate the decline which may be antici-

Years	Number of Birth	Year	Population aged 14-17
	(000)		(000)
1907-09	2773	1923	2201
1908-10	2752	1924	2202
1909-11	2693	1925	2162
1910-12	2651	1926	2124
1911-13	2636	1927	2113
1912-14	2634	1928	2118
1913-15	2576	1929	2111
1914-16	2479	1930	2042
1915-17	2268	1931	1956
1916-18	2116	1932	1756
1917-19	2023	1933	1660
1918-20	2313	1934	1870
1919-21	2499	1935	2098
1920-22	2587	1936	2285
1921-23	2387		
1922-24	2268		
1923-25	2199		
1924-26	2135		
1925-27	2059		
1926-28	2009		
1927-29	1958		
1928-30	1953		
1929-31	1925		
1930-32	1895		
1931-33	1826		
1932-34	1792		
1933-35	1777		

pated in the number of persons aged 14-17 in each of the years to 1949, if account were only paid to births. The figure may be expected to fall to the same level as in 1933. There has been, however,

EDUCATION AND POPULATION CHANGES

within the past decade an annual inward balance of migration, and on this account we may expect that the worst forebodings suggested by the birth statistics will not be entirely fulfilled. But a decline in the possible secondary school population may certainly be anticipated.

The percentage figures of those in attendance at schools and colleges, aged 14-17, have risen from 5.8 in 1913 to 22.8 in 1934, and the figure was 19.0 in 1936. The actual numbers of those in attendance rose from 324,000 in 1923 to 434,000 in 1936. In the next ten years we might anticipate that the percentage of those aged 14-17 in attendance at State-aided schools and colleges will rise, since there will be less competition for the places offered by the available accommodation. On the other hand, there will be the pull of trade, industry, and commerce intensified owing to the same lack of competition for jobs.

ELEMENTARY SCHOOLS

In the table on the following page further particulars are given respecting elementary schools

TEACHERS AND SIZE OF CLASSES

A department is a portion of a school which normally has a head teacher. In 1936 there were 20,880 schools and 29,478 departments. The number of departments has gradually been declining from 31,538 in 1923 to 29,478 in 1936. The average attendance has also declined and has reflected the changes recorded in the number of births. Apart

ENGLAND AND WALES PUBLIC ELEMENTARY SCHOOLS MAINTAINED BY
LOCAL EDUCATION AUTHORITIES *

	1913	1923	1924	1925	1926	1927	1928	1929	1930	1931	1932	1933	1934	1935	1936
Number of Departments (Separate Head Teacher)	32,300	31,538	31,188	31,001	30,872	30,724	30,591	30,522	30,429	30,361	30,226	29,959	29,701	29,589	29,478
Average Attendance (000)	5,365	5,136	5,025	4,934	4,950	4,967	4,981	4,999	4,941	4,930	5,006	5,049	5,066	4,907	4,748
Average Attendance per department	166	163	161	159	160	162	163	161	162	162	166	169	171	166	161
Average Attendance as percentage of number on register	88.7	89.3	88.7	88.2	88.0	88.2	88.8	88.1	89.1	89.0	89.8	89.6	89.7	89.7	89.2
Number of Classes (000)	148	147	148	150	150	150	150	151	152	152	152	152	152	150	149
Percentage of classes with 40-50 children		27.6	27.6	29.3	28.5	28.7	30.3	32.8	33.3	33.6	34.7	36.6	35.6	33.2	31.1
Percentage of classes with 50 or more children		21.0	17.0	14.4	13.3	13.5	11.1	7.2	6.6	5.6	5.2	5.5	4.1	2.8	2.3
Number of full-time teachers in regular employment (000)	163	164	163	164	166	166	168	167	168	169	170	171	171	171	170
Percentage certified	65.4	70.1	71.1	71.3	71.8	72.1	73.0	73.6	74.1	74.7	75.4	75.8	76.4	77.0	77.7

* From Statistical Abstract, 1936

from these changes the average number attending per department has remained nearly stationary. There seems to be some evidence of a slight increase in the percentage of children on the register who are in average attendance, this figure being just under 90. The number of separate classes is in the neighbourhood of 150,000, and over the period under review has tended to increase, and at the same time has moved in accordance with variations in the number of children. The figures relating to large classes are of interest in view of the definite policy against large classes. The percentage of classes with 50 or more children has steadily declined. It was 21 in 1923 and 2.3 in 1936. At the same time the proportion of classes with 40-50 children has increased from 27.6 per cent in 1923 to 36.6 per cent in 1933 and 35.6 per cent in 1934, when the number of children in average attendance attained its last maximum, subsequently declining to 31.1 per cent. With a declining school population and the same number of teachers the proportion of large classes should sensibly diminish in the near future. The number of teachers has increased from 163,000 in 1913 to 170,000 in 1936. At the same time an increasing proportion are certified. At present more than three-quarters of the teachers are qualified in this way.

The average figures shown in the previous table conceal variations within the country as a whole. For instance, of the total of 29,478 departments in 1936, 11,061 or 37½ per cent are departments with less than 100 in average attendance, and 6370 or 21½ per cent have more than 250 in average attendance.

EDUCATING FOR DEMOCRACY

In the rural parts of areas under county councils there were, in that year, 11,090 departments and of these, 8414 or 76 per cent had less than 100 children in average attendance. The average size of the departments in rural areas as judged by average attendance was 77, against 161 for the whole country. The corresponding figure for Wales was 133, for all county boroughs 239, and for London 222.

The following table shows the distribution of classes according to size for all England and Wales and for the rural parts of the areas under county councils.

		Size of Class						Average Size of Class
		Under 20	20-30	30-40	40-50	50 and Over	Total	
1926	England and Wales	%	%	%	%	%	%	
	Rural Areas	9.2	20.0	28.9	28.6	13.3	100	37.0
1928	England and Wales	23.6	37.6	24.2	11.2	3.4	100	27.0
	Rural Areas	9.0	19.9	29.7	30.3	11.1	100	37.1
1932	England and Wales	23.5	37.7	24.2	11.4	3.2	100	27.0
	Rural Areas	8.4	19.1	32.6	34.7	5.2	100	36.9
1934	England and Wales	23.8	35.9	25.9	12.8	1.6	100	27.3
	Rural Areas	7.7	18.1	34.5	35.6	4.1	100	37.0
1936	England and Wales	22.8	35.3	27.8	13.0	1.1	100	27.8
	Rural Areas	9.2	21.0	36.4	31.1	2.3	100	35.5
	Rural Areas	27.2	37.4	25.4	9.7	0.3	100	26.1

The average size of class for all England and Wales was practically the same from 1926 to 1934, but the distribution of classes in the various grades indicating size changed somewhat. In 1934 there was a greater proportion of classes with 30 to 50 pupils,

EDUCATION AND POPULATION CHANGES

70 per cent of the classes in that year compared with 58 per cent in 1926. Besides a reduction in the proportion of larger classes (over 50), there was also a reduction in the proportion of smaller classes, from 29 per cent in 1926 with less than 30 pupils to 26 per cent in 1934. When we compare the 1926 distribution with that of 1936, we note that practically the same percentage figures are shown in the table for classes under 30, and the changes recorded indicate a shift from the proportion of classes over 50 to those with 30 to 50 pupils.

From 1926 to 1934 the average size of classes in rural areas has increased slightly. Again there is evidence of greater concentration of the classes in the grades 30-40 and 40-50, at the expense both of the larger as well as of the smaller classes. In 1936, the average size declined, and the proportion of classes with less than 20 increased. It must be remembered that the total elementary school population of England and Wales fell sharply from 1934 to 1936, having been more or less stationary for about sixteen years up to 1934.

The table below gives the number of pupils on the registers of elementary schools for England and Wales and for the rural parts of areas under county councils, together with appropriate percentages.

	England and Wales	Per Cent	Rural Areas	Per Cent	Rural as Per Cent of England and Wales
1934	5,577,000	100 0	1,045,000	100 0	18 8
1935	5,402,000	97 0	982,000	94 0	18 2
1936	5,251,000	94 2	934,000	89 4	17 8

EDUCATING FOR DEMOCRACY

In this short period there has been a decline in the total school population, a decline of about 6 per cent, but the decline in that of rural areas has been 11 per cent, leaving the rural proportion of the whole country 17·8 per cent compared with 18·8 per cent in 1934. Judging from figures of average attendance in 1926 and 1928, the rural proportion of the whole country was then 20 per cent.

Between 1851 and 1931 the percentages of the population enumerated at censuses in urban districts increased from 50 to 80. The decline of rural England has continued since 1931, and the change is reflected in our school population figures.

SECONDARY SCHOOLS

In the table on the facing page certain statistics to secondary schools are given.

The number of secondary schools on the grant list was just over a thousand in 1913, it was 1264 in 1923, and since that time it has been increased to 1389 in 1936. The number of pupils has increased from 174,000 in 1913 to 464,000 in 1936 (246,000 boys and 218,000 girls). Earlier in this chapter we pointed out the relationship between the number of young persons aged 14-17 attending grant-aided schools and colleges, including elementary schools and technical institutions, etc., and births. The present figures refer only to those at secondary schools, and they are inclusive of persons aged 17 and over. The total number of boys and girls who are pupils at secondary schools has steadily increased since 1923. The proportions of the secondary

ENGLAND AND WALES GRANT-AIDED SECONDARY SCHOOLS *

	1923	1924	1925	1926	1927	1928	1929	1930	1931	1932	1933	1934	1935	1936
Number of schools	1010	1264	1270	1284	1301	1319	1341	1354	1367	1379	1378	1381	1380	1389
Number of full-time pupils (000)	174	354	349	353	360	371	378	394	411	432	442	448	458	464
Percentage aged 16	7.9	9.3	9.6	9.6	9.0	9.4	9.1	9.8	10.3	10.0	9.8	8.2	7.8	9.9
Percentage aged 17 and over	5.1	6.4	6.6	6.8	6.8	6.9	7.1	7.0	7.3	8.0	8.3	7.9	6.5	5.6
Percentage ex public elementary school pupils	64.1	67.8	67.6	68.1	68.5	69.1	69.8	71.2	72.0	73.1	74.0	74.8	75.7	76.4
Percentage non-fee paying	36.2	38.6	38.4	39.2	39.7	41.1	42.5	43.0	44.9	48.4	49.0	48.2	47.3	46.4
Number of full-time teachers (00)	104	185	187	191	196	193	201	205	217	223	228	230	234	240

* From Statistical Abstract of U.K., 1936

school population who are aged 16 and 17 and over are of special interest, indicating the extent to which the pupil's education is continued after the normal leaving age, 16

In 1936, 9.9 per cent of the pupils were 16 years of age, and 5.6 per cent were 17 and over, altogether about 70,000 boys and girls. The changes in these percentages with time are necessarily related to the changing age distribution of the school population as a whole, and this is affected in recent years by the violent movements in the number of annual births in the later war years and the years immediately after. If we relate the number of pupils aged 16 in a given year to the number of births 16 years previously, we find that roughly $3\frac{1}{2}$ per cent of those born in 1907 were at a secondary school in 1923, while about 5 per cent of those born in 1920 were at a secondary school in 1936. The secondary schools are attracting an increasing proportion of those who are exposed to the risk of a secondary school education.

The grant-aided secondary schools are being used increasingly as the next stage in the education of the elementary school pupil. Also, the secondary schools are recruiting increasingly from the public elementary schools. 67.8 per cent of the secondary school population in 1923 had attended elementary schools, while the proportion in 1936 was 76.4 per cent. Further, the percentage of non-fee-payers has gradually risen from 36 in 1913, 38.6 in 1923 to 49 in 1933, since when the figure declined to 46.4 in 1936. About 215,000 of the secondary school pupils in 1936 were non-fee-paying.

With the increasing number of schools and of pupils there has been an increasing number of teachers. There were about 10,400 teachers in 1913, 18,500 in 1923 and the number rose to 24,000 in 1936. The proportion of pupils to teacher was the same in 1923 as in 1936, 19 to 1.

In 1936, 26.6 per cent of the total number of classes in England and Wales consisted of 20 pupils or less, 18.1 per cent had more than 20 but not more than 25 pupils, 31.1 per cent had more than 25 pupils but not more than 30; and 24.2 per cent had more than 30 pupils. The average size of class is of course much less with secondary schools than with elementary schools, though it is doubtful if there is a reasonable case for maintaining large classes in elementary schools. The fact that education authorities have been able to establish as an accepted principle the notion of having classes of 20 and 25 in secondary schools, should mean that the time is not far distant when the same principle should be applied to elementary schools.

In 1936 there were relatively more older boys at secondary schools than older girls. 48.8 per cent of the boy secondary school population were under 13, 51.2 per cent were 13 and over. On the other hand, the figures were practically reversed for girls. 51.4 per cent of the girls were under 13, and 48.6 were 13 and over. Some interesting figures are given in *Education in 1936*, already referred to. In 1936, 6.9 per cent of the estimated male population aged 11 years were full-time pupils at grant-aided secondary schools, and 6.4 per cent of the estimated female population of the same age were likewise

pupils at such schools. 12·5 per cent of boys of 12 were at secondary schools, and 11·4 per cent of girls of the same age were also at secondary schools. The corresponding figures for other ages were at age 13, boys, 12·7 per cent, girls, 11·4 per cent; at age 14, boys, 12·0 per cent, girls, 10·5 per cent, at age 15, boys, 10·9 per cent, girls, 9·2 per cent, at age 16, boys, 6·7 per cent, girls, 5·8 per cent, at age 17, boys, 3·1 per cent, girls, 2·8 per cent. The equality between the sexes is not fully attained at the secondary school stage of education, at any rate as far as these figures for grant-aided schools go. Is this due to the parent who still considers that the higher education of his sons is of greater importance than that of his daughters, or is it partly due to lack of opportunity?

During the year ended July 31st, 1936, 3578 pupils left grant-aided secondary schools to proceed to a university or to a university training department. Of these, 2473 were male and 1105 were female. Of the men, 1736 were ex-pupils of public elementary schools, that is, 70 per cent, and 1394 of the ex-elementary schoolboys had paid no fees at the secondary school. This is a great change since pre-war days when such an event was worth a notice in a newspaper. Of the young women, 684, or 76 per cent were ex-pupils of elementary schools. 559 of these had paid no fees at the secondary school. But even though the numbers of such persons who have open to them a university career is greater than was the case thirty years ago, the recruitment of the universities from the elementary schools is still very small.

EDUCATION AND POPULATION CHANGES

SPECIALIZED EDUCATION

The following figures give some indication of the extent to which the facilities offered by institutions which give specialized instruction in technical subjects are utilized.

NUMBER OF PUPILS UNDERGOING COURSES AT TECHNICAL COLLEGES AND SCHOOLS, ART SCHOOLS, EVENING INSTITUTES, ETC (ENGLAND AND WALES)

	1923	1924	1925	1926	1927	1928	1929
Part time students (000)	683	708	756	789	815	862	899
Full-time students (000)	32	31	32	32	34	36	34

	1930	1931	1932	1933	1934	1935	1936
Part time students (000)	950	1007	961	907	936	994	1060
Full time students (000)	36	38	39	40	41	43	47

The facilities offered for specialized education have been extended considerably, and an increasing number of young persons have been taking advantage of these courses. This is a branch of post-primary education which normally is not in the limelight of public notice, but its usefulness cannot be exaggerated.

MEDICAL INSPECTIONS AND SCHOOL FEEDING

During 1936, 1,727,000 children had a medical inspection, as part of the routine service rendered by the school medical inspection of pupils at public elementary schools maintained by local education authorities. Of these, 17 per cent were found to require treatment for various defects, excluding

defects of nutrition, uncleanness, and dental disease. In the same period, 3,464,000 children received a dental inspection, and 70 per cent were found to require treatment. It is interesting to note that, as a part of the service which is being rendered to the children in attendance in public elementary schools, during 1936 1,049,000 minor defects were treated, more than 95 per cent through arrangements made by the local education authorities. 1,537,000 dental defects were treated, all these under arrangements made by the local education authorities again. 275,000 ophthalmic defects were given treatment (nearly 97 per cent under arrangements made by the local education authorities), and 82,000 operative defects of the nose and throat were treated (nearly 80 per cent under arrangements made by the local education authorities).

At the routine medical inspection of about a third of the schoolchildren in 1936, 14.6 per cent were found to be excellent in the assessment of nutrition, 74.2 per cent were normal, 10.5 per cent slightly subnormal, and 0.7 per cent bad. If these figures can be used as a guide to the state of affairs respecting the rest of the school population which did not come up for the routine inspection, we may say that about half a million children of elementary school age were below normal in an assessment of nutrition.

The Board of Education are "concerned to secure that all children who are unable by reason of lack of food to take full advantage of the education provided for them should receive such supplementary nourishment as may be appropriate in each

EDUCATION AND POPULATION CHANGES

case, the meals being provided free where the parent is unable to pay" (circular 1443, December 1935) In the following table there are given figures relating to free meals during the year ended March 31st, 1936.

PROVISION OF MEALS AND MILK (YEAR ENDED MARCH 31ST, 1936)

Children receiving Ordinary Meals

Type of Area	Average Number on Registers where Meals are provided	Number of Children	Number of Meals	Average Number of Meals per Child	Children receiving Meals as Per Cent of Number on Register
Counties	1,513,000	13,072	1,919,000	147	0 86
Boroughs and urban districts	682,000	23,488	3,973,000	169	3 45
County boroughs	1,793,000	96,499	16,071,000	167	5 38
London	507,000	10,120	997,000	99	2 00
Total	4,495,000	143,179	22,959,000	160	3 20

Children receiving Milk Meals

	Number of Children	Number of Milk Meals	Average Number of Meals per Child	Children receiving Milk Meals as Per Cent of Number on Register
Counties	152,327	26,529,000	174	10 1
Boroughs and urban districts	61,436	11,471,000	187	9 0
County boroughs	144,036	20,924,000	145	8 0
London	48,542	4,786,000	99	9 6
Total	406,341	63,710,000	157	9 0

For the country as a whole just over 3 per cent of the children in regions where the free-meal schemes are in operation are being fed with ordinary meals. These meals include dinners, and, in some areas, breakfasts and teas. About 9 per cent of the

children are given free milk meals. Altogether 479,343 individual children were given free meals of some sort. Thus, the half million previously referred to as below normal in nutrition are being helped under the scheme. It will be seen from the figures in the table that the feeding is continuous throughout the year, the average number of free meals of an ordinary character being 160 for the whole country, and the average number of milk meals is 157. The variations from one type of area to another are also shown in the table. The figures for London presumably reflect the better industrial conditions from the point of view of employment.

An important development in recent years is the provision of nursery schools. It is realized that full provision for the care of children under 5 years of age is not possible, but where the nursery schools exist in areas where working mothers can take advantage of them, they are undoubtedly a boon. There were 55 such schools in 1932, and 79 in 1936. The accommodation in 1932 was for 4520 children, and there were 2911 children in average attendance, or 64.5 per cent of accommodation. In 1936, the accommodation had increased to 6040 and the average attendance was 4234, a percentage of 70. These figures show that full use is made of this provision.

Present problems include also the extension of facilities for physical education and games both in school time and in the evenings and holiday periods. The attendance which the problem of juvenile delinquency is now receiving should focus people's

minds on the fact that rightly or wrongly many children of school age, especially boys of 12 and 13 are at a loose end in their spare time, and are full of energy which often seeks its dissipation in pursuits which are classified as offences in the eyes of the law. The organization of games in the non-school time should do a great deal to reduce the incidence of delinquency amongst juveniles.

CHAPTER XXIII

COMPARATIVE EDUCATION

THE interaction of the educational theories and practices of different cultural groups and nations is as old as education itself, to trace the development of this interaction is, indeed, the function of the study of the history of education. With the influence of Greek education on Rome, of the Roman grammar school on the development of secondary education in the mediaeval period, of Greek and Roman education on the educational movements of the Renaissance and Reformation, of the Reformation idea of compulsory elementary education on the subsequent development of national systems of education, and of the great theorists of the nineteenth century—to mention only Pestalozzi, Froebel, and Herbart—on the progress of education everywhere every student of education is familiar. When the movement for the establishment of compulsory education began in the United States a century ago, guidance was sought from the practices of the European countries and was disseminated by the publication of Victor Cousin's *Report on Education in Prussia*. When in the second half of the nineteenth century England began to be interested in

the reorganization of secondary education and, shortly after, of elementary education, information was secured by the several Royal Commissions on the practices of the leading countries of Europe and of the United States. During the formative period of education in the United States an extensive body of literature on the practices in foreign school systems was accumulated in Barnard's *American Journal of Education* and was continued later in the *Reports* and *Bulletins* of the United States Bureau of Education. With a similar desire to discover what other countries were doing in the field of education and as a basis for the reorganization of the English system of education in the last decade of the nineteenth century, Mr. (now Sir) Michael Sadler initiated the monumental series of *Special Reports on Educational Subjects* which was published by the Board of Education and continued later in occasional Educational Pamphlets. The importance for the student of education of a knowledge of the theories and practices of the educational systems of the world was recognized in Monroe's *Cyclopedia of Education* which appeared just before the World War.

Although interest in the educational theories and practices of foreign countries has always been marked, comparative education has only recently been recognized as a branch of the study of education. As an organized subject of study comparative education owes its origin to the unrest in education which has existed in all countries of the world and which is itself the result of the unrest in social, political, economic, and cultural life in the period

following the World War. In the movements for the reorganization and expansion of educational systems to meet the new demands of a transition period educators and statesmen everywhere are looking for light on their own problems wherever they can find it. It has even been proposed that educational attachés be appointed to embassies and legations to perform the same functions in their field as are performed by military, naval, and commercial attachés in theirs. The importance of understanding the educational systems of other countries was already recognized, when on the outbreak of the World War the nations on both sides sought to discover wherein lay the strength and weakness of their own schools as compared with the schools of their opponents. Here was a definite recognition of the close interaction of school and society or the state already stressed in both Plato and Aristotle. Here, furthermore, is an indication of the scope of comparative education.

The value and contribution of comparative education would, indeed, be missed if it were thought that its primary purpose is to describe systems of administration, school buildings, curricula, methods of instruction, and salaries of teachers. Such descriptive accounts of educational systems, while they may have some value on the technical side, must remain sterile unless they are clothed with meanings. Such meanings can only be found embedded in the backgrounds of culture, using the term in its broadest sense, of the countries from which they are drawn. Educational systems whether deliberately planned and designed to promote specific political ends, as

in the totalitarian States of to-day, or whether developed without conscious and deliberate definition of ends by a central authority, as in the democratic countries, are none the less redolent of the soil from which they spring. They represent the ideals and aspirations, the political and cultural background, the native and national inheritance of a people. The forces that determine the character of an educational system of a people spring from its history, from its social and political ideals and organization, and from its culture, and are given direction by national aims and ideals. Thus arithmetic is a subject found in the elementary school courses of all countries, but the revision of the content of arithmetic in German schools to-day with its emphasis on problems of race, heredity, armaments, and aeroplanes derives its meaning from the aims of National Socialism. In his work on *Hitler over Europe*, Henri presents an account of Germany's foreign policy, the student who wishes to understand the significance of the revised history programme of May 1933, will find its explanation not in pedagogical reasons but in Henri's book. So, too, the sciences may be dominated by political ideologies as in Soviet Russia and National Socialist Germany. In 1931 the Soviet authorities announced that after fourteen years of trial the new methods of education had failed, the reason for the change from the new education to a régime of discipline, control, and prescription was only in part educational, considerations of political control and indoctrination also played their part. In the same way the recent enthusiasm for physical fitness and physical educa-

tion in Czechoslovakia, France, and England are open to other than educational interpretations

The study of comparative education, if limited to the mechanisms and techniques of education, to administrative and curricular practices, to timetables and school organization, or to methods of instruction would deal with the anatomy of educational systems and would fail to reveal the forces that give them life. This was the thesis maintained by Sir Michael Sadler, who in 1900 in a lecture published under that title discussed the question, "How Far can We learn Anything of Practical Value from the Study of Foreign Systems of Education?"

In studying foreign systems of education [said Sir Michael], we should not forget that the things outside the schools matter even more than the things inside the schools, and govern and interpret the things inside. We cannot wander at pleasure among the educational systems of the world, like a child strolling through a garden, and pick off a flower from one bush and some leaves from another, and then expect that if we stick what we have gathered into the soil at home, we shall have a living plant. A national system of education is a living thing, the outcome of forgotten struggles and difficulties and "of battles long ago." It has in it some of the secret workings of national life. It reflects, while seeking to remedy, the failings of national character. By instinct it often lays special emphasis on those parts of training which the national character particularly needs. Not less by instinct, it often shrinks from laying stress on points concerning which bitter dissensions have arisen in former periods of national history. But is it not likely that if we have endeavoured, in a sympathetic spirit, to understand the real working of a foreign system of educa-

tion, we shall in turn find ourselves better able to enter into the spirit and tradition of our own national education, more sensitive to its unwritten ideals, quicker to catch the signs which mark its growing or fading influence, readier to mark the dangers which threaten it and the subtle workings of hurtful change? The practical value of studying in a right spirit and with scholarly accuracy the working of foreign systems of education is that it will result in our being better fitted to study and understand our own

A year earlier Dr. Charles H. Thurber, in his *Principles of School Organization A Comparative Study Chiefly Based on the Systems of the United States, England, Germany, and France* (Worcester, Mass., 1899), expressed the same idea when he wrote

There are certain problems set for every people that undertake to deal with school organization. There have been various solutions worked out for these problems, chiefly in the nineteenth century, by different nations, each operating in its own historic spirit and environment. The answers obtained may or may not agree, but our view will be widened by seeing more than one solution. Moreover, such a study, dealing as it does with fundamental principles, should foster the acquisition of a philosophic attitude toward that wide field of interest covered by the term "organization of education." Perhaps, too, we shall see more clearly that education, as a system, is a development, a product of the evolution of society, and that if the form we have seems not quite to fit our highest conceptions, the way to better it is not by bartering what we have for what someone else has, nor by building a lean-to against our present structure. Further study might well be given to the basal problem for each country—how has the existing condition and

system or lack of it been developed out of the co-operation and antagonisms of universal principles and national peculiarities ?

Two examples may be cited to illustrate this thesis. Some years ago the Prussian education authorities sent a mission to England to study the public schools. The members of the mission visited the schools, spent some time in the classrooms, studied the organization and curricula of the schools, but still remained puzzled. The technical aspects they could understand, what they could not discover from the technical investigation of the schools was what gave them their strength and their place in the English scheme of things, for on the technical side the mission came to the conclusion that the secondary schools of Germany were in many respects superior. Nor did M. Démolin's book, *A quoi tient la supériorité des Anglo-Saxons ?* (1897), which also dealt with English public schools, meet with any success in France.

In 1931 Dr Paul Monroe under the sponsorship of the Carnegie Corporation of New York invited representatives from a number of countries to attend a conference on examinations. The first meeting was held at Eastbourne, England, and was attended by representatives from England, France, Germany, Scotland, Switzerland, and the United States. The deliberations were opened not with an attack on the problem of examinations but with a discussion of the meaning of education as understood by the representatives of each group. It was immediately clear from the statements made

that education derives its meaning from the cultural backgrounds of a nation and that a universal definition is out of the question. For this reason it was soon recognized that the proposed subject of inquiry—examinations—could not be investigated by an international commission and that it could best be conducted by national committees.

And yet one point was also clarified. Although it was realized that educational systems are uniquely national, examinations do in fact constitute to-day a serious problem in each one of them. This fact is illustrative of another important purpose which the study of comparative education can serve. Although national systems of education are unique, the problems which confront them to-day are very much the same. Hence national educational systems constitute, as it were, experimental laboratories dealing with similar problems, while the controls of traditional backgrounds and present aims must inevitably lead to different solutions.

By way of illustration two such problems may be cited. There is scarcely a country in the world at present which is not concerned with the problem of the proper distribution of education. It is everywhere recognized that the dual systems of education which prevailed in the nineteenth century—an elementary education for the masses and a secondary education for the few—is no longer adapted to the needs of modern societies and that the different levels of education must be articulated into a single system. This gave rise to the movement for the *école unique* in France, the *Einheitschule* in Germany, and "secondary education for

all " in England , nor is the movement confined to these countries alone The problem is the same everywhere—the proper distribution of education , the solutions will be different—in Germany the political ideology is injected , in France the traditional inflexibility of *culture générale*, from which only the few are capable of profiting, remains as a fixed point in any proposals for solution , in England the traditional social stratification and what a former President of the Board of Education has described as " inverted snobbery " may stand in the way of a solution called for by the logic of the situation. Soviet Russia, on the other hand, after adopting the ladder of education, soon discovered that certain standards of achievement must be imposed at various stages, while in the United States, where equality of educational opportunities has been provided on an unparalleled scale, there is general concern lest equality of opportunity may not have been confused with identity of opportunity to the detriment of educational and intellectual standards

The movements for the reorganization of curriculum and methods may be taken for the second illustration There is to-day widespread dissatisfaction with the traditional curriculum and methods of instruction in primary schools as formal, bookish, verbal, and disciplinary Everywhere it is proposed to adapt the curriculum to the individual and social environment of the pupils and to encourage greater activity on the part of the pupils themselves Here, again, the problem is the same , the solutions in different countries are not In Republican

Germany considerable progress had already been made in the new direction, the National Socialist régime continues to tolerate the newer principles of instruction—activity methods—but adapts the curriculum to the pre-established ideological environment, narrows the preparation of teachers for political ends, and controls the content of textbooks and other reading material—practices which have been adopted for similar reasons in Italy and in Soviet Russia. In France proposals for the revision of the curriculum and methods of instruction are subject to the control of the principle that the function of the primary school is to teach those things which every adult should know. The latest edition of the *Handbook of Suggestions for Teachers* (1937), issued by the English Board of Education, is based on the acceptance of environmental adaptation but with the recognition that freedom implies a corresponding responsibility in its use. In the United States the movement is making more rapid progress, but in the main because the American tradition is to have no traditions and the chief emphasis is on changing civilization, with the result that freedom is too often cultivated at the expense of social obligation and cultural standards.

These are but two examples selected from current movements in education, which can only be listed here without further discussion and with the statement that, although they all constitute problems in every country, the answers to them will be dominated by the peculiar ethos of that country. Such a list would include the relation between education and nationalism which implies in turn the extent of state

control over education and cultural developments, the relation of the state to education brings in its train the question of the relation of the state to the individual and to local groups, leading to the division of authority between central and local governments, and the answers to these questions at once affect the answer to the problem of freedom in education and education for citizenship. It is obvious from this brief list that problems of the administration and organization of education, the provision of educational opportunities and the proper distribution of education according to individual capacity, the supply and preparation of intellectuals, the care of youth, curricula and methods of instruction, the preparation of teachers, examinations, and standards of achievement cannot be solved merely in the light of logic or of principles of education. Answers to all these problems are coloured by the political and cultural backgrounds, by national aims, and by national mentalities.

Dr Walter M. Kotschnig in his Introduction to the book edited by himself and Elined Prys, *The University in a Changing World* (1932), draws attention to the point here elaborated—that educational systems represent different national modes of thinking even at the level of higher education, where the aims and purposes might have been expected to be more nearly alike. His statement runs as follows:

The quest for a New University—is there any ground for anticipating that the institutions of higher learning, in spite of all their national differences, will ever again be fundamentally united by one idea of knowledge and a

common ideal of man? We are not prepared to answer this question in the affirmative. The essays of which this book is composed would rather indicate that the last vestiges of unity are rapidly disappearing. They appear to be studies in national psychology rather than essays on the common essence of the universities. Thanks to the services rendered by the translators, the articles, some of which were originally written in French, German, Italian, or Russian, offer an extraordinary insight into the different national modes of thinking. The Italian's eloquence, the German's love for abstract thought, the Frenchman's clarity and precision, the Englishman's sense of the actual, all are there. It seems hardly believable that when the authors consented to collaborate in the symposium they all undertook to answer the same questions, to follow the same outline.

As their mode of thought differs greatly, so their very conceptions seem to be altogether disparate.

If the argument is sound that national educational systems are unique, the question may well be asked whether the study of other systems than our own has any value. Very little, it may be answered, if it is limited to a study of the details of organization, a great deal, if attention is devoted mainly to a study of the factors that determine the character of educational systems. With an approach such as this, comparative education, in dealing with the fundamental bases of education, should furnish a practical study of principles and philosophy of education. It broadens the scope of the study of education from its chief preoccupation in the past with metaphysics and ethics and more recently with psychology and techniques to a study of social, political, and cultural backgrounds from which in the main educa-

tion derives its meaning. Without neglecting philosophy and psychology, comparative education restores the study of education to its earliest traditions, for, when Plato and Aristotle undertook to discuss the State, their treatises became and have continued to be basic treatises on education. And this approach is all the more necessary to-day when education, more than ever before, has become the concern of the national State and when it is dominated by political considerations.

Does the study of foreign school systems imply that it is possible to transfer the educational theories and practices of one country to another? The answer has already been provided in the statement that systems of education are uniquely national. History has proved the failure of such attempts at transfer or else that when transferred, principles and practices suffer a sea-change from the inevitable necessity of adapting them to the local environment. Education in colonial dependencies as well as missionary education has everywhere failed because of the well-intentioned practice of assimilation to education in the mother-country rather than adaptation to the cultural environment of the people to be educated. This failure has been recognized by the French authorities who talk less to-day of *assimilation* and more of *adaptation*, it has been recognized by the British Colonial Office Advisory Committee on Education and in the United States by those who are interested in education in Porto Rico and the Philippine Islands.

Such failure is not confined to the attempts to transfer the educational systems from the more

advanced to the backward countries. There is, in the United States, considerable unrest in the field of higher education, which is a hybrid mixture of the English college and the German university. In South Africa the movement for local adaptation of education is already under way, in New Zealand and Australia attachment to "home" has not only stood in the way of an educational reorganization better suited to local conditions, but the original pattern has in many respects remained somewhat crystallized and has not been affected by the rapid advances at "home". The chief contribution of the League of Nations' Mission of Educational Experts in their report on *The Reorganization of Education in China* (1932) was their finding that the failure of education in China was due to the transportation of American education to that country. So, too, the failure of education in India and in the Near East—in Turkey, Syria, Egypt, and Persia—may be attributed to the same cause. Finally, there may be cited the failure of dozens of foreign educators imported to reorganize the educational systems of many South American countries. On the other hand, Mexico has shown how a striking reform of education can be carried out on the basis of an educational theory taken from abroad but adapted to her own ethos.

Inevitably the earlier question again crops up—what is compared in the study of comparative education? Is it its function to determine whether one system is better than another and, if so, by what standards can different systems of education be measured? Because such systems are uniquely

national and represent the hopes, ideals, and aspirations of a people, there are few things about which a nation is more sensitive than the education that it provides, and it is a truism to say that every nation has the education that it desires. It is not, however, the function of comparative education to evaluate the quality of a system, although an evaluation of certain aspects of it may be made under proper reservations. The function of comparative education is to discover what the problems of education are, to discuss how they have arisen, and how they may be met in a given setting, and to develop a philosophy or principles of education. Its scope and its methods are similar to those of comparative literature, comparative religions, comparative law, and comparative politics.

For the present the only judgments or evaluations that the student of comparative education can reach must remain subjective, determined in fact by his own educational background. It is possible that actual objective comparisons may be employed, but when so employed they can be applied only to one part of the educative process—the measurement of achievements in different subjects of the curriculum. This method has, in fact, already been used. Thus in 1927 Professor S. R. Powers of Teachers' College, Columbia University, administered American objective tests in chemistry to pupils in a number of English secondary schools. Two years later the Educational Records Bureau of New York tested English secondary school pupils on American tests in English, French, and algebra. In 1931-33 the Scottish Council for Research in Education con-

ducted a comparison of Scottish and American elementary school pupils on the basis of American standard tests in the fundamental elementary subjects, and a similar comparison at the same level has been made of pupils in Oregon and Victoria, Australia. The use of objective tests for purposes of comparison has possibilities but they are limited to one aspect of education only. Objective tests could tell very little in dealing with a subject like the "Making of Citizens" which was undertaken by Dr. Charles E. Merriam of the University of Chicago and his collaborators in a series which covered many European countries and which again illustrates the thesis that the educational system of a nation cannot be fully understood except as an expression of everything that enters into the creation of that nation's mentality.

Nor does the method of statistical comparison reveal very much, in fact, educational statistics are for the present worthless for purposes of comparison, partly because of variety of terminology, partly because the methods of collecting data vary from one country to another. Because of the great divergences in purchasing power of the currencies used, statistics of costs and expenditures are of very little comparative value. This does not exclude the possibility of developing for international purposes uniform methods of assembling and reporting educational data and utilizing basic index numbers for purposes of comparison. The attempt, for example, to institute comparisons between enrolments in secondary schools in European countries and in the high schools of the United States is completely

fallacious, because the fact is ignored that the former enrol a limited group, while providing for other pupils of the same age level in other schools of different types, whereas the American high school provides within itself for the education of all adolescents

From the professional point of view the introduction of courses in comparative education serves with history of education as a balance to the tendency to specialization which is recognized as the bane of higher and professional education everywhere and to too intense preoccupation with the techniques of education. It helps to give a breadth of outlook which cannot be acquired from the study of one's own school system. The study of a system unlike our own serves as a challenge to examine the traditions, the problems, and the solutions of our own, even though it remains true that a foreign system or practices cannot be transferred bodily without needed adaptations. The difficulty is that the field of comparative education is as broad as national cultures themselves. It involves a study of political theories and practices, of the relations between the State and the individual, of cultural backgrounds as well as of education itself. The methods of comparative education are the methods of research into the history and philosophy of education. It involves also a command of one or more foreign languages if research is to be carried to any extent beyond the mere surface. And, finally, it is difficult to define the boundaries for what is called the study of education. Books dealing with national character, of which many have been published in

the last quarter of a century, or with political and social sciences as well as current literature, may at times throw more light on the meaning of education in a country than the study of the educational system itself

Although the study of comparative education is relatively new—as a field of study it is barely two decades old—a large body of literature has been made available and especially in English. In 1924 the International Institute of Teachers' College began the publication of an *Educational Yearbook* devoted to the discussion of education throughout the world ; in 1932 the *Year Book of Education* under the auspices of the Institute of Education of the University of London entered the same field. The Bureau International d'Education in Geneva publishes a monthly Bulletin giving bibliographies and information on current developments in education, an *Annuaire*, as well as special reports and annual reports of the Congresses which the Bureau holds on various phases of education. Equally important are the publications of the Institute of Intellectual Co-operation, of the Fédération Internationale des Associations des Instituteurs and the Fédération Internationale des Fédérations Nationales des Membres du Personnel de l'Enseignement Secondaire Officiel, and of the World Federation of Education Associations. That there is no lack of materials for the study of comparative education may be gathered from the selected bibliography of one hundred and fifty titles given in the *Review of Educational Research* (Washington, D C.), vol vi, No 4, October 1936, pp 450-456.

Comparative education has thus established itself as an important branch of the study of education. While it still remains true that educational systems cannot be transferred from one cultural environment to another, the subject provides a method for the development of a body of principles and a philosophy of education; it challenges established practices and prejudices, and it serves as an agent of intellectual cross-fertilization. Comparative education, then, is not concerned primarily with the accumulation and dissemination of information about educational systems, but seeks to look beyond this information to the backgrounds out of which the systems spring and derive their peculiar character. The justification for this approach is best expressed by Robert Bridges in *The Testament of Beauty*:

Since each group as it rose was determin'd apart
By conditions of life which none other could share

It was this approach which was used in the present author's *Comparative Education* (Boston, 1933), the aim and plan of this book are defined in the following prefatory statement, which may serve as a summary of this chapter:

The comparison of the educational systems of several countries lends itself to a variety of methods of treatment, depending somewhat on its purpose. One method of approach might be statistical on the analogy of the method of comparing returns of exports and imports, size of armaments, and so on, from this point of view there would be compared the total national expenditures for education, the cost, size and character of school buildings, *per capita* costs for different items of expenditure in the educational systems, the enrolments, average attendance,

and retention of pupils through the different levels of the educational ladder. By another method it might be possible to institute a comparison between education and national welfare and progress as expressed in statistics of illiteracy, the volume of trade and commerce, *per capita* wealth, or incidence of crime and poverty. These methods are attractive and may some day be useful, at the present stage, as is indicated in the text, it is impossible to institute comparisons of such a character until the raw material, the statistics, becomes more uniform and comparable. Still another method would be to undertake comparative studies of the quality of education in different countries, this, too, may be possible in time, but not before the instruments of measurement have been made more perfect and reliable than they are at present or when aims of education in different countries are more nearly alike, or finally, when tests have been developed which can measure more accurately the results of education rather than of instruction in fundamentals of subject-matter.

In the present volume none of these methods have been followed. The task which has been undertaken is to discuss the meaning of general education, elementary and secondary, in the light of the forces—political, social, and cultural—which determine the character of national systems of education. The problems and purposes of education have in general become somewhat similar in most countries, the solutions are influenced by differences of tradition and culture peculiar to each.

The place and importance of the study of comparative education have nowhere been more pertinently indicated than in Professor J. Dover Wilson's introduction to *The Principles of Educational Policy* (1929) by Dr. Nicholas Hans.

There is no reason why Comparative Education

EDUCATING FOR DEMOCRACY

should not prove as interesting and fruitful a study as Comparative Politics. The time will come when men realize that the structure of a nation's educational system is as characteristic and almost as important as the form of its constitution. And when it does, we shall have our educational Montesqueus analysing educational institutions, and our Bryces classifying them.

WHO'S WHO

SIR PERCY NUNN, M A , D Sc (Lond), HON LITT D
(Liverpool and Dublin), HON. LL D (St Andrews)

Sir Percy Nunn was formerly Director of the University of London Institute of Education and is at present Emeritus Professor of Education in the same University

His distinguished contributions to Education include *Aims and Achievements of Scientific Method* (Macmillan, 1907), *The Teaching of Algebra* (Longmans, 1914); *Education, Its Data and First Principles* (Arnold, 1920)

In 1923 he was President of the Education section of the British Association. He has also published many scientific papers read before the Aristotelean Society, The Mathematical Association, and other learned bodies. In addition he has contributed articles to other co-operative educational works.

MISS L DE LISSA

Miss de Lissa is Principal of the Gipsy Hill Training College. She was born in Australia and was at one time Principal of the Adelaide Kindergarten Training College. She has contributed considerably towards the organization of pre-school education in South Australia.

Her publications include various papers in educational journals. She collaborated in the production of the volume *The School of England*. Readers will look forward to her forthcoming work on Nursery Education (Longmans) which will appear in a few months.

EDUCATING FOR DEMOCRACY

Miss de Lissa is Chairman of the Nursery School Association of Great Britain and has generally taken a leading part in the development of nursery school education in this country. Her interests are many and varied and include social problems, natural history, country life, and music.

LORD RAGLAN

4th Baron Lord Raglan has made numerous outstanding contributions to the science of anthropology. His publications include, among others, *Jocasta's Crime* (1933), *The Hero A Study in Tradition, Myth and Drama* (1936). He has besides written many papers in scientific journals and collaborated in *Human Affairs* (1937). He is a former President of the Anthropological Section of the British Association, and has held various administrative posts in Africa and Palestine. He is married and has two sons and a daughter and spends most of his time on his charming estate near Usk, Mon. He is well known for his dry and caustic wit.

MR E FARMER, M A

Mr Farmer is Reader and Director of Research in Industrial Psychology in the University of Cambridge.

He is the author of many scientific papers published by the Medical Research Council, the Industrial Health Research Board, and the *British Journal of Psychology*. He keeps a farm. His interests are very general and he is one of the best-liked figures in psychological circles.

PROFESSOR OLIVE A WHEELER, M Sc (Wales), D Sc (Lond)

Professor Wheeler holds the Chair of Education at University College, Cardiff. Formerly she was Lecturer in Education and in Psychology in the University of

Manchester and from 1923-25 she was also Dean of the Faculty of Education

Her publications include *Anthropomorphism and Science* (Allen & Unwin, 1916); Nursery School Education Pt II, *The Mind of the Child* (Methuen, 1920, 1923, and 1928), *Bergson and Education* (Manchester University Press, 1922), *Youth* (University of London Press, 1929 and 1933), *Creative Education and the Future* (University of London Press, 1936), and numerous articles and addresses in various scientific journals

She is Chairman of the Cardiff Branch of the Nursery School Association, Member of the Council of the Save the Children Fund Nursery Schools, a co-opted member of the Monmouthshire Education Committee, member of the Executive of the Central Welsh Board, and of the Academic Board and Court of the University of Wales. She is also Vice-President of the British Federation of University Women

MISS HELEN WODEHOUSE, M A (Cambridge and Birmingham), DR PHIL (Birmingham)

Dr Wodehouse has been the Mistress of Girton College, Cambridge, since 1931. She was formerly Lecturer in Philosophy in the University of Birmingham, 1903-11, and Professor of Education in the University of Bristol, 1919-31. She is the author of various philosophical and educational works including recently *Selves and their Good* (Allen & Unwin, 1936) and *Language and Modern Philosophy in Mind* (1938)

MR ERNEST GREEN, M A, J P

Mr Green is General Secretary of The Workers' Educational Association and was formerly District Secretary in Yorkshire of the same organization

He has written numerous papers on educational topics

EDUCATING FOR DEMOCRACY

Mr Green is particularly interested in the organization of international relationships through Joint Summer Schools with educationists abroad. He is a member of the B B C Central Council for Adult Education and a member of the Board of Education Advisory Committee on Adult Education. He was recipient of an honorary degree in the University of Manchester in "recognition of services to Adult Education."

DR R H CROWLEY, M D , F R C P.

Dr Crowley was formerly Senior Medical Officer to the Board of Education and is now retired.

His publications include numerous contributions to technical journals on various aspects of the physical and mental health of the child. His best known work is a volume entitled *The Hygiene of School Life*, first published in 1909. Due to the fact that Dr Crowley joined the Staff of the Board of Education, second and subsequent editions were brought out by Dr Hutt under the title of *Crowley's Hygiene of School Life*.

During a varied career Dr Crowley has also held the posts of Medical Superintendent to the Bradford Education Authority, Honorary Physician to the Bradford Royal Infirmary, and Visiting Physician to the Eastby Sanatorium.

Dr Crowley has taken an active interest in the mental health of the child. He was Vice-Chairman of the Joint Committee of the Board of Education and Board of Control on Mental Deficiency, which published the report generally known as the Wood Report. He served also on the Departmental Committee on Sterilization.

In 1927 Dr Crowley was invited to tour the United States by the Commonwealth Fund of New York in order to see the various child-guidance clinics inaugurated and working under the auspices of the Fund.

Since retirement Dr Crowley has associated himself

WHO'S WHO

closely with the work of the Central Association for Mental Welfare and that of the Home and School Council of Great Britain Dr Crowley has taken active part in the interests both of physical and mental health in the movement towards bringing together town and country, first as a citizen in the development of Letchworth and, subsequently, as a citizen of Welwyn Garden City. Gardening is his special hobby

MR W O LESTER SMITH, M A

Mr Lester Smith is Director of Education in the city of Manchester He was formerly Director of Education for Essex He has also held teaching appointments at Macclesfield and Marlborough and appointments in educational administration under Warwickshire and later under Lancashire County Councils

His publications include papers in educational journals and *A Short History of Europe* (Dent, 1913)

PROFESSOR R B CATTELL, M A , B SC , PH D

Dr Cattell is now Associate Professor of Genetic Psychology at Clark University, Mass , U S A. He was formerly Lecturer in Education at University College, Exeter, Director of the School Psychological Clinic, Leicester, and later held the Leonard Darwin Fellowship in Eugenics

His publications include *Cattell Intelligence Tests* (Harrap, 1930) ; *Psychology and Social Progress* (Daniel, 1933) , *Your Mind and Mine* (Harrap, 1934) , *Guide to Mental Testing* (University of London Press, 1936) , *The Fight for our National Intelligence* (Kind, 1937) , *Crooked Personalities in Childhood and After* (Cambridge University Press, 1937) He is also the author of numerous research papers on the measurement of temperament and personality development in various scientific journals and co-author in *Human Affairs*

EDUCATING FOR DEMOCRACY

He is particularly devoted to the application of psychological research and the social sciences in general to modern problems

MR DENIS CLARKE HALL, A R I B A , A A DIP

Mr Clarke Hall is the son of Sir William Clarke Hall, the magistrate. He is a practising architect, and, after becoming Associate of the R I B A , he won the International Competition for an Ideal School (Section "A") organized by the *News Chronicle*

He has published various technical papers in architectural journals. In his student days he studied science at London University, art in Paris, and architecture in the Architectural Association School of Architecture

DR P B BALLARD, M A , D LIT

Dr Ballard is now retired but was formerly Divisional Inspector of Schools to the London County Council

His publications include *Obliviscence and Reminiscence* (Cambridge University Press, 1913), *Mental Tests* (1920), *Teaching of the Mother Tongue* (1921), *Group Tests of Intelligence* (1922), *The New Examiner* (1923), *The Changing School* (1925), *Teaching the Essentials of Arithmetic* (1928), *The Bargerys* (1934), *Thought and Language* (1934), *Things I cannot Forget* (1937), all published by the University of London Press.

Dr Ballard is particularly interested in Child Psychology, methods of teaching English, Arithmetic, and the Arts and Crafts. He spends his leisure painting in water-colours

MR RICHARD PALMER, B SC

Mr Palmer is Lecturer in Education in the University of Liverpool. He was formerly Assistant Lecturer in Zoology at University College, London, from 1927 to 1933

He has contributed several papers on zoological research subjects to scientific journals, and has recently published a book entitled *Living Things An Introduction to Biology* (Allen & Unwin) which is already in its third edition

He is particularly interested in the history of scientific method and the social relations of science He is also interested in the promotion of biology in the school curriculum, and is Chairman of the Merseyside Branch of the Association for Education in Citizenship

He is married and has three young daughters

MR H GAITSKELL, B A

Mr Gaitskell is Tutor to Higher Civil Service students, Reader and Head of the Department of Political Economy at University College, London

His chief publications include *Chartism an Introductory Essay* (Longmans, 1929), "Four Monetary Heretics", in *What Everybody wants to know about Money* (Gollancz, 1933), "Austrian Economic Development", in *Lloyds Bank Review* (May 1934), "Notes on the Period of Production" (*Zeitschr für Nationalökonomie*), 1936 and 1938 He is now editing and translating the contributions made by the Austrian economist Böhm-Baweril to the Theory of Capital

MR J I COHEN, M A , MR R. M W TRAVERS, B SC

Mr Cohen and Mr Travers have been research workers in Psychology for several years, the former at the Psychological Laboratory, University College, London, and the latter at the Galton Laboratory in the same College

They are the authors of scientific papers published in psychological journals, co-editors of *Human Affairs* with Prof Cattell, with whom they are now preparing an *Experimental Psychology for Schools*, to appear in due course

Mr Cohen is a University Tutorial Lecturer in Psychology Mr Travers held the Leonard Darwin Fellowship in Eugenics, 1937-38, and has now taken up a research post in Columbia University, U S A

They are chiefly interested in a scientific approach to human behaviour

SIR PHILIP J HARTOG, K.B E, C I E, LL.D, M.A, B Sc

Sir Philip Hartog is at present Director of the International Institute Examinations Enquiry

His career is a distinguished one and his past appointments include Lecturer in Chemistry in the University of Manchester, Academic Registrar of the University of London (1903-20), Member of the Viceroy's Commission on the University of Calcutta (1917-19), Vice-Chancellor of the University of Dacca (1920-25), Member of the Indian Public Services Commission (1926-30), Chairman of the Auxiliary Committee on Education of the Simon Commission (1928-29)

He received his early education at the Owens College, Manchester, and the Universities of Paris and Heidelberg, and did research in the laboratory of Berthelot in the Collège de France

His publications include papers on chemical and physical subjects in *Comptes Rendus*, Brit. Association Reports, Transactions of Chemical Society, etc, numerous contributions to the *Dictionary of National Biography*, "Joseph Priestley and his Place in the History of Science", *Proc of the Roy Institution*, 1931, *The Writing of English* (Oxford University Press, 1907, 1908), *Examinations and their Relation to Culture and Efficiency* (Constable, 1918), *An Examination of Examinations* (with E C Rhodes) (Macmillan, 1935), *The Marks of Examiners* (with E C Rhodes and C Burt) (Macmillan, 1936), *Some Aspects of Indian Education* (Oxford Uni-

WHO'S WHO

versity Press) appearing shortly, and very many other papers on examinations and educational topics

Sir Philip is specially interested in education and educational organization. His present main interests are in the reform of the teaching of the mother tongue and of the examination system.

DR EMANUEL MILLER, M.A., M.R.C.S., L.R.C.P.,
D.P.M.

Dr Miller is a leading psychologist and holds several important appointments including, Psychiatrist to the West End Hospital for Nervous Diseases, Hon. Director of Child Guidance Unit, Senior Physician to the Institute of Medical Psychology (Tavistock Clinic) and others.

Dr Miller has been Lecturer to post-graduate medical students at Cambridge and still gives University Extension Courses in London. He is a Fellow of the Royal Society of Medicine, of the Société de Morphologie, and late Chairman Medical Section, British Psychological Society.

His publications include, besides numerous psychological papers in scientific journals, *Types of Body and Mind* (Kegan Paul, 1936), *Modern Psychotherapy* (Jonathan Cape, 1931), *Insomnia and Disorders of Sleep* (Bale & Danielson, 1935), *The Generations* (Faber & Faber, 1938), *The Problems of the Growing Child* (editor and co-author) (Kegan Paul, 1937). A forthcoming work, *The Mind as Organism*, is in preparation.

Dr Miller is very interested in the whole field of Child Psychology and in Social Anthropology. His leisure is spent painting and modelling. He is married and has two young children.

PROFESSOR K. MANNHEIM, DR PHIL

Professor Mannheim was born in Budapest. He studied at various universities including Budapest, Berlin,

Paris, and Heidelberg. Later he held the Chair of Sociology at Frankfurt-on-Main. Since 1933 the University of London has had the good fortune to have him on the staff.

His contributions to the field of sociology are very extensive in both German and English, and are scattered throughout the technical literature. Last year he published a book entitled *Ideology and Utopia* in the International Library of Psychology, Philosophy, and Scientific Method. A further work of his, *Human Nature and Society in an Age of Reconstruction: The Sociological Approach to the Study of History*, will appear very soon.

His interests are very wide, and he has read extensively in Social History, Psychology, and Economics.

MR. H. L. BEALES, M.A.

Mr. Beales is Reader in Economic History in the University of London, and was formerly a lecturer in the same subject in the University of Sheffield.

His numerous works include *The Industrial Revolution* (Longmans, 1928), *Early English Socialists* (Hamilton, 1933), *Travel and Communications in Johnson's England* (Oxford University Press, 1932), and various other works and articles on history and economics.

Mr. Beales' interests are very wide, and include popular education through the agency of the film and the cheap book. He is an editor of "Pelican" Books.

DR. E. C. RHODES, D.Sc.

Dr. Rhodes is Reader in Statistics in the University of London.

His publications include several contributions to *Biometrika*. In 1933 he produced a book entitled *Elementary Statistical Methods*, published by Routledge. He collaborated with Sir Philip Hartog and Professor

Cyril Burt in two volumes entitled *Examination of Examinations* and *The Marks of Examiners*, both published by Macmillan

He is editor of *Population*, a journal of the International Union for the Scientific Investigation of Population Problems

PROFESSOR I. L. KANDEL, M A , PH D , LITT D

Professor Kandel is Professor of Education in Teachers College, Columbia University, New York. He was formerly Staff Member of the Carnegie Foundation for the Advancement of Teaching. He has studied the school systems in many countries in Europe, South America, Mexico, New Zealand, and Australia.

His publications include *History of Secondary Education*, in 1931, and also a volume entitled *Comparative Education*, in 1933. The Harvard University Press published his work, *Dilemma in Democracy*, in 1933.

He is a member of the Editorial Board of the *Year Book of Education*, and a member of the Board of Directors of the "Educational Forum" (New York). He is also a trustee of the Finch Junior College.

PROFESSOR H. R. HAMLEY, M A , M SC., PH D

Dr Hamley is Professor of Education at the University of London and Acting-Director at the Institute of Education.

Formerly he was Professor of Education at the University of Bombay and Principal of the Secondary Training College.

His contributions to educational science include the following publications: *School Discipline* (Macmillan, 1929), *The Teaching of Arithmetic* (Macmillan, 1929), *Functional and Relational Thinking in Mathematics* (Teachers' Training College Publications, N Y, 1934),

EDUCATING FOR DEMOCRACY

Intelligence and Intelligence Testing (Evans Bros , 1935) ,
The Education of the Backward Child (Evans Bros ,
1936)

Professor Hamley is recognized as one of the leaders
of education in this country

INDEX

- Administration of cities, 147
- Administrative Provisions Act, 111
- Adolescence, 66
- Aichhorn, A , 354
- Architecture, Georgian, 185
 - Gothic, 185, 186, 189, 190
 - Greek, 184, 186, 189, 190
 - modern, 184, 186 *seg*
- Arnold, Matthew, 91
- Art, and beauty, 213
 - and nature, 219
 - modern, 221, 232
- Bacon, 256
- Baldwin, Lord, 211
- Balfour Act, 96
- Ballard, Dr P B , 279, 369, 448
- Beales, Mr H L , 452
- Bell, Clive, 215
- Beveridge, Sir William, 300, 391
- Biology, in schools, 238
 - teaching of, 250
- Birmingham, 161
- Blacker, C P , 326
- Botany, teaching of, 252
- Brighton, 232
- Briscoe, Professor H V A , 289
- Bryant, Mr C L., 277
- Bulley, Miss Margaret, 216
- Burk, Frederick, xxx
- Burns, Dr C Delisle, 293
- Burt, Professor C , 44, 173, 176, 375, 376, 377
- Buzzard, Sir Farquhar, xxx
- Cathcart, 116
- Cattell, Professor R B , 271, 447
- Character, 43
 - and morality, 316
 - formation of, 313
- Charles, Dr Enid, xxv
- Chetwode, Sir Philip, 209
- Child, aggressiveness in, 30
 - development of, 369 *seg*
 - emotional life of, 28
 - health of, 33
 - phantasies of, 320
 - pictures of, 217-19
 - the blind and deaf, 152-3
 - the mentally abnormal, 174, 376
- Child Guidance Clinics, 150, 171 *seg* , 321
 - in Leicester, 180
- Civil Service Commissioners, 294
- Clarke Hall, Mr Denis, 448
- Cohen, Mr J I , 449
- Colour in schools, 195
- Composition, teaching of, 202 *seg*
- Consistency, 288
- Co-operative Movement, 102
- Crowley, Dr R H , xix, 446
- Darwinism, 2
- Delinquency, 44, 160, 176
- de Lissa, Miss L , xxi, 443
- Democracy, xvi
- Dewey, Professor John, xxiii
- Dibelius, 380
- Diet, constituents of, 124-6
- Discipline, 41
- Disease in school children, 112
- Dollard, I , 342

EDUCATING FOR DEMOCRACY

- Dover Wilson, Professor J , 209, 441
- Drama in schools, 228
- Drever, Professor, 173
- Economics, nature of, 261-3
teaching of, 263-5
training in, 260
- Education, adaptation of, 434-5
and competition, xix
and morality, xx
and sociology, 330 *seq*
and the community, 12
background of, 429
Board of, 20, 35, 68, 70, 74, 83, 97, 105, 106, 112, 118, 132, 136, 153, 156, 162, 163, 168, 173, 200, 272, 277
class, xxii
comparative, 438-9
elementary, 69
expenditure on, 381 *seq*
history of, 422
in adolescence, 68 *seq*
in England, 428, 430
in France, 429
in Germany, 425, 430, 431
in health, 138
in Russia, 425, 430
in the United States, 430
liberal, 332
national, 433, 437
opportunity in, 65
post-primary, 156-9
technical, 158
university, 74 *seq*
- Education Act, 1936, 155
- Education (Provision of Meals) Act, 121
- Eicholtz, Dr , 152
- Ellis, G S M , 296
- Emerson, Dr W R P , 117
- English gentleman, the, 380,
- Evelyn, John, 214
- Evening News*, the, 273
- Ewing, Dr and Mrs , 153
- Examinations, 167
Common Entrance, 279
in French, 284, 285
irregularity in, 283
Leaving Certificate, 279
nature of, 281 *seq*
School Certificate, 279
Special Place, 278
validity of, 287
- Exercise, 131
- Expressionism, 220, 222
- Farmer, Mr E , 444
- Fascism, xvii, xviii
- Fisher, H A L , 2
- Foster, R G , 350
- Freud, 346
- Friend, Dr , 126
- Froebel, 23
- Functionalism, 226, 227
- Furniture in schools, 195
- Gaitskell, Mr H , 449
- Games, 361
- Gangs, 354
- Gardens in schools, 199
- Germany, universities in, 75
- Gesell, A , 27, 34
- Glanvill, Joseph, 248
- Glass, D V , 296, 390
- Gray, Professor J L , 296-7, 390, 393
- Green, Mr Ernest, 445
- Group-catharsis, 337
- Group mind, the, 358
- Hadow Report, first, 146, 149, 154
- Haldane, Professor J B S , xxi, xxiv, 244
- Hall, Sir Daniel, 244
- Hamley, Professor H R , 453
- Handicrafts, 223 *seq*
- Hartog, Sir Philip, xx, 231, 450
- Harvard, 273
- Hawtreys, Miss Freda, 154
- Heald, Dr C B , 133

INDEX

- Healy, Dr , 172, 176, 377
 Heating in schools, 193
 Hepburn, Mr W F , 288
 Hitler, 211
 Hocart, Professor, 51
 Hogben, Professor Lancelot,
 xxviii, 6, 243, 246, 247, 296,
 297
 Homework, 277
 Horney, Karen, 345
 Huxley, Julian, 244, 270
 Hygiene, teaching of, 251

 Ideologies, 355
 Independence of mind, 45-9
 Industrial capitalism, 378
 Industrial Health Research Board,
 271
 Infant Welfare Centre, 136
 Inge, Dean, 392
 Intelligence, 67

 Jacks, Dr L P , 140
 Jepson, Mr , 250
 Joad, C E M , 214
 Johnson, H , 30
 Juvenile Employment Bureaux,
 159

 Kandel, Professor I L , 453
 Konody, P G , 213
 Kotschnig, Dr Walter M , 432

 Le Bon, G , 360
 Leisure, use of, 161
 Lester Smith, Mr W O , 447
 Lighting in schools, 193
 Lindsay, Kenneth, 296, 298, 390
 Logical method, the, 249
 London University, 274
 Lurçat, André, 190

 Macmurray, Professor, xia, xxi
 Malinowski, Professor, xxi
 Malnutrition, 115, 118, 127
 Mannheim, Professor, xviii, xxi,
 451

 Mansbridge, Dr Albert, 93, 94
 Marriage Guidance Council, 323
 Maternity, 309
 Matriculation, 79
 Mental discipline, 372 *seq*
 Meredith, G P , 249
 Milk in schools, 122
 Miller, Dr Emanuel, xxi, 451
 Mitchison, Mrs Naomi, xxii
 Moodie, Dr , 173
 Morant, Sir Robert, 16
 Morris, William, 226
 Moshinsky, Dr Pearl, 296, 393
 Music in schools, 229

 National Council of Labour
 Colleges, 100
 National psychological labora-
 tory, 271, 272
 Neutra, S , 191, 197
News-Chronicle, the, xxvii
 Noise in schools, 194
 Norwood, Dr Cyril, 157
 Nunn, Sir Percy, 243, 257, 443
 Nursery schools, 35-8
 Nutrition and growth, 117

 Occupations, 58-60
 Orr, Sir John, 124, 246
 Ortega y Gasset, 360
 Orthopaedics, 151
 Owen, Grace, 34
 Oxford University, 269

 Palmer, Mr Richard, 448
 Peach, Mr Harry, 232
 Pediatricians, 172, 174
 Physical development, 109
 Piaget, 74
 Pictures in schools, 196
 Population, decline of, 400
 elementary school, 407 *seq*
 secondary school, 412 *seq*
 shift of, 401
 Posture, 132, 133
 Pregnancy, 310

EDUCATING FOR DEMOCRACY

- Preventive medicine, 113
 Prohibitions, social, 343 *seq*
 Propaganda, 207
 Psychologists, 172, 174
 Psychology, in education, 64
 in the United States, 276
 in universities, 269, 276
 tests, 61, 301
 uses of, 271
 Psychotherapists, 172, 179, 181
- Raglan, Lord, *xxi*, 444
 Raleigh, Sir Walter, 220
 Rest, 134, 135
 Rhodes, Dr E C, 288, 452
 Richardson, Miss Marion, 218
 Roberts, Mr Charles, 289
 Ruskin College, 101
 Russell, Bertrand, 38
- Schilder, P, 357
 Scholarships, 389 *seq*
 School Certificate, the, 230, 254,
 277, 279
 Schools, canteens in, 128
 medical inspection of, 417 *seq*
 middle-class, 385, 387
 public, 383
 senior, 71-4
 special, 149, 150
 Science syllabuses, 238, 242
 Self-expression, 40
 Sex instruction, 324
 Social sciences, 258 *seq*
 Social workers, 172, 174, 177, 178
 Spearman, C, 220, 287, 371
 Speech, development of, 24
 Spencer, Herbert, 10
 Sprat, Thomas, 236
 Stamp, Sir Josiah, 279
 Subnormal child, the, 148
 Surrealism, 222
- Taft, Jessie, 342
- Tawney, Professor R H, *xxix*,
 95
 Thomas, W I, 340
 Thomson, Professor Godfrey, 157
 Thomson, Professor J J, *xxiv*
 Thorndike, Professor, 366, 373
 Thouless, Dr, 221, 250
 Thrasher, F M, 354
 Thurber, Dr Charles H., 427
 Tolstoy, Leo, 216
 Tomlinson, R R, 218
 Trade Unions, 101
 Training of teachers, 17, 20, 86
 seq, 165 *seq*, 395 *seq*.
 Travers, Mr R M W, 449
- Unconscious, the, 222
 Universities, and the State, 81
 of the United Kingdom, 280
 selection for, 84
 University Extension Movement,
 94
 University Tutorial Classes, 95,
 273
 Utilitarianism, 239
- Valentine, Professor C W, 287
 Ventilation in schools, 194
 Vocational guidance, 56
- Wagoner, L, 27
 Wallas, Graham, 147
 Wells, H G, 19
 Wender, Louis, 353
 Westminster School, 228
 Wheeler, Professor Olive A, 444
 Wile, Dr. Ira, 322
 Wodehouse, Miss Helen, 445
 Wootton, Mrs, 261
 Workers Educational Association,
 93, 98, 99, 101, 273
 Wulff, M W, 346
- Znaniecky, F, 340

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